# The Croonian Lectures

ON

# THE MEANS BY WHICH THE TEMPERATURE OF THE BODY IS MAINTAINED IN HEALTH AND DISEASE.

*Delivered before the Royal College of Physicians of London,*

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## LECTURE II.[1]

*Delivered on June 17th.*

MR. PRESIDENT AND GENTLEMEN,—You will remember that in the last lecture we saw that it would be possible by taking simultaneous observations of the internal temperature, the surface temperature and the amount of sweat secreted, to find out in man whether a rise of internal temperature was due to a diminution in the loss of heat or an increase of the production. Further, it is clear that this method will enable us to tell the cause of the fall of a high temperature. The experiments that I am about to detail to you were carried out with these objects. The temperatures are all given in degrees Fahrenheit, and the amount of sweat in milligrammes.

A. *Temperature raised by a hot bath; experiments on myself* (see Table VIII.).

TABLE VIII.—*Temperature Raised by Hot Bath.*

| Number of experiment. | Time. | Mouth temperature. | Abdominal surface temperature. | Milligrammes of sweat from abdomen in ten minutes. | Remarks. |
|---|---|---|---|---|---|
| | P.M. | Deg. F. | Deg. F. | | |
| 1 | 7.0 | 98·2 | 93·7 | 2·4 | |
| | 7.25 | — | — | — | Got into hot bath (temperature 112°); remained in fourteen minutes. When I came out I felt faint, breathing deeply. The bath was then 108°. I rapidly dried myself, put on dressing-gown, and lay down. |
| | 7.45 | 103·2 | 94·5 | 185·7 | |
| | 7.55 | — | 88·7 | — | |
| | 8.5 | 99·5 | — | — | |
| | 8.15 | 98·6 | — | — | |
| | 9.0 | 98·0 | 92·8 | 2·3 | |
| 2 | 3.30 | 98·2 | 92·8 | 1·5 | |
| | 3.40 | — | — | — | Got into hot bath (temperature 112°).; remained in fourteen minutes. The bath was then 106°. Faintness and rapid breathing were not so marked. Dried as before. |
| | 4.0 | 101·0 | 93·7 | 92·4 | |
| | 4.15 | — | 91·8 | — | |
| | 5.0 | 98·2 | 93·7 | 3·9 | |

The temperature rises in these experiments owing to the fact that the hot water stops the loss of bodily heat by radiation and conduction, and it prevents evaporation of sweat. Probably the hot water does not warm the body much in so short a time as the specific heat of the body is high. In both these experiments I could, by watching the skin, see that the secretion of sweat did not begin to be very profuse till a few minutes after I was out of the bath, but by ten minutes after it was extraordinarily abundant. It will be seen that in all respects the first bath produced more marked effects than the second; probably this was because the second cooled the faster. But both experiments teach that the evaporation of sweat is by far the most important agent in reducing the bodily temperature when it has been artificially raised by a bath, and it will be noticed that when such a large amount of sweat is secreted the surface temperature is lower than it was either before the experiment began, immediately after the bath, or some time after the experiment, when the secretion of sweat is nearly normal. This is no doubt due to the rapid evaporation of the sweat, and this means of reducing the temperature is so energetic that it actually makes the loss by radiation and conduction less, although the internal temperature is raised, and it will be seen that in the first experiment the surface temperature fell 5·8° in ten minutes, but in the second with much less sweat secreted it only fell 1·9° in fifteen minutes. Other striking facts are the rapidity with which a normal temperature is regained and the enormous quantity of sweat secreted.

B. *Temperature raised by Turkish bath; experiment on myself.*—Before the bath the mouth temperature was 98.8°, and the surface temperature of the abdomen was 90 5°. Milligrammes of sweat from the abdomen in 10 minutes 2 2. After taking these observations I went into the hot rooms and remained there an hour and twenty minutes, mostly at 120°, but for some time in rooms at 150° and 190°. Then I was massaged, shampooed, and had a shower bath. After which I was wiped quite dry, and then the mouth temperature was 99 8°, and the surface temperature of the abdomen was 92·3°. Milligrammes of sweat from the abdomen in ten minutes 46 1. Here, again, we see what a very energetic agent sweating is in reducing an artificially raised temperature, for after I had been sweating profusely for eighty minutes in the bath the sweat was still being secreted twenty times as fast as before the bath, but the quantity was not enough to make the surface temperature lower than before the bath.

C. *Temperature raised by damage to the brain.*—In two papers[2] I have shown that damage to the corpus striatum in rabbits raises their internal temperature. So many experimenters have confirmed this observation that I need not now trouble you with the details. The following table (Table IX.) shows the results I obtained in twenty-seven experiments.

TABLE IX.

| Highest temperature after operation. | No. of degrees above that immediately before. | Highest temperature after operation. | No. of degrees above that immediately before. | Highest temperature after operation. | No. of degrees above that immediately before. |
|---|---|---|---|---|---|
| Deg. F. | Deg. F. | Deg. F. | Deg. F. | Deg. F. | Deg. F. |
| 106·8 | 5·2 | 105·4 | 2·0 | 104·2 | 1·1 |
| 106·8 | 4·6 | 105·4 | 2·4 | 104·0 | 1·8 |
| 106·7 | 4·5 | 105·2 | 4·0 | 103·6 | 2·7 |
| 106·2 | 3·2 | 104·9 | 3·1 | 103·6 | 0·6 |
| 106·0 | 3·6 | 104·8 | 3·6 | 103·4 | 2·0 |
| 105·0 | 3·7 | 104·6 | 2·4 | 103·0 | - 0·2 |
| 106·0 | 4·7 | 104·4 | 2·2 | 100·8 | - 0·4 |
| 105·9 | 3·3 | 104·4 | 2·0 | — | — |
| 105·8 | 4·8 | 104·2 | 2·0 | — | — |
| 105·6 | 4·4 | 104·2 | 1·2 | — | — |

In the last experiment the lesion was very extensive, and the fall of temperature was due to loss of blood. I show you a chart in which you can see very well the rise of temperature produced in a rabbit by damage to the corpus striatum (see Chart 1).

Many instances in which in man after a hæmorrhage into the corpus striatum the temperature has been raised have been recorded by Bourneville, Ferrier, J. H. Bryant, myself, and others, and references to these authors will be found in an address I gave at a meeting of the British Medical Association at Bristol in 1894.[3] These cases show that if

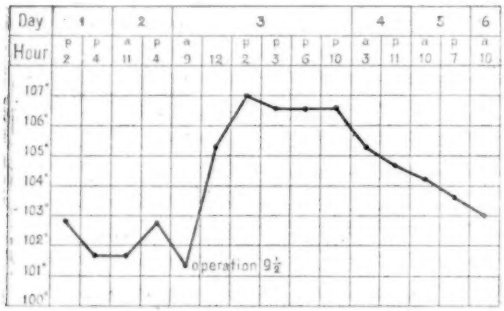
[1] Lecture I. was delivered on June 15th and published in THE LANCET of June 19th, 1897; Lecture III. was delivered on June 24th, and Lecture IV. will be delivered on June 29th.

[2] Published in the Journal of Physiology, vol. xi. and vol. xii.

[3] Brit. Med. Jour., Nov. 17th, 1894.

after a hæmorrhage takes place into one corpus striatum the temperature is raised, it will be higher in the opposite or paralysed axilla than in the axilla on the non-paralysed side,

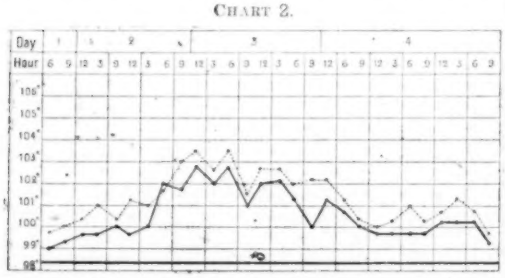
CHART 1.




Shows the rise of temperature in a rabbit after damage to the corpus striatum.

and that the temperature on the paralysed side remains higher than that on the other even during the subnormal period which succeeds the rise. I have seen several cases which illustrate this, and I will show you charts of two of them (see Charts 2 and 3), and since I began to investigate

CHART 2.

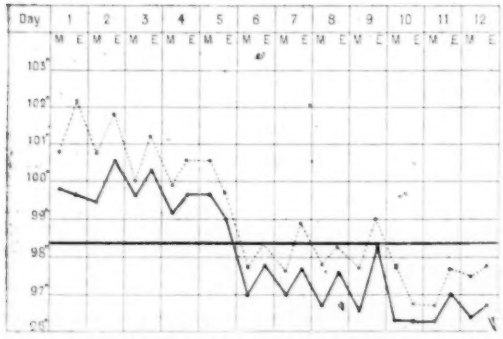



Shows the temperature after hæmorrhage into the corpus striatum on one side. The dotted line shows that in the axilla on the side opposite to the hæmorrhage; the straight line that on the same side as the hæmorrhage. (From a patient in Mary ward.)

surface temperatures two more such cases have come under my care. They gave the following results (see Table X).

It will be seen that in both these cases the temperature was always higher in the paralysed axilla—that is to say, the internal temperature was higher on the paralysed than on

CHART 3.




From another but similar case to the preceding.

the sound side. In the first case the surface temperature of the two arms was equal, but the amount of sweat secreted on the paralysed arm was much greater than on the other, therefore the loss of heat must have been more rapid on the paralysed side; but as in spite of this the internal temperature was raised, the quantity of heat in the paralysed arm must have been greater than that in the unparalysed arm. In the second case on one occasion the secretion of sweat was almost equal on the two arms and on two other occasions it was greater on the paralysed side. The surface temperature was always considerably greater on the paralysed arm, so that here the losses from evaporation, radiation and conduction are all greater from the arm with the higher internal temperature; therefore in this case, too, the quantity of heat must have been considerably greater in the paralysed arm than in the other. In neither case was there any visible dilatation of the vessels on the paralysed side, nor have I ever observed, even when the difference of temperature has been considerable, any dilatation of the vessels on the paralysed side in hemiplegia. This is evidence against the view that the increased temperature on the paralysed side is due simply to there being more blood in the paralysed arm, and when we remember that damage to the central nervous system, whether experimental or clinical (it is the commonest cause of hyperpyrexia in man), frequently causes such a high temperature that we must suppose the production of heat to be increased, the observations I quote do lend strong support to the view that when in hemiplegia the temperature is raised in the paralysed axilla the increased quantity of heat in the paralysed arm is due to a greater production of heat in the paralysed than in the corresponding unparalysed limb. If this is so we have an instance in which a lesion that paralyses the motor function of muscle excites the thermogenetic, and thus we see that the functions are distinct.

D. *Temperature raised in fever.*—In any fever the general condition and temperature of different patients vary very much, and, therefore, single observations would be of little value. I have consequently made several observations on different patients in the following fevers, and if all the cases of any particular fever point in the same direction we shall probably be justified in drawing conclusions. I have always compared the observations made on a patient with a febrile temperature with those made on the same patient before he got up, but when his temperature was normal, or very nearly normal, unless his death prevented this.

I. *Typhoid fever* (see Table XI.).—The table shows that in all cases the amount of sweat secreted during the fever was small (from 2 to 3 milligrammes in ten minutes is the usual amount my boxes absorb from the abdomen of a healthy man) and less than when the temperature had fallen, therefore during the fever the loss of heat from evaporation was diminished. Also in every case except one the surface temperature rose less than the internal—in other words, the loss from radiation and conduction was not increased proportionately to the rise of internal temperature, and was therefore, relatively to the internal temperature, less during the fever. Thus, there is distinct evidence that in typhoid fever the loss of heat is relatively to the rise of temperature diminished, and this diminished loss no doubt helps to raise the internal temperature. Still, as the surface temperature always rose considerably, the actual loss by radiation and conduction must have increased during the fever, and probably the decreased secretion of sweat was not enough to counteract this. Therefore we may conclude that although certainly in typhoid fever the pyrexia is largely due to a lessened loss of heat, yet probably, too, the production is increased. Typhoid fever is remarkable in that, although it is a long-lasting disease with a high temperature, it has a low mortality; and these results suggest that one reason for this may be that the temperature is raised with the least expenditure of energy, for it is obviously more economical of energy to raise the temperature by diminishing the loss of heat than by increasing the production. Then, too, it is interesting to note that experience has shown that the best way to reduce pyrexia in typhoid fever is by sponging, that is by increasing the loss of heat. It is well known that the internal temperature of typhoid fever is irregular as convalescence approaches, and we see that the same is true of the surface temperature (see Case 5, high readings on 5th and 6th) and sweat (same case, reading on 5th). In Case 7 it will be noticed that as the patient got worse the surface temperature approached the internal—that is to say, he was dissipating energy the faster.

II. *Pneumonia* (see Table XII.). All these cases, except the first, show that the excessive sweating which is associated with the crisis lasts some days after it, and the fourth case shows how enormous the sweating of the crisis may be. This sweating must aid in keeping

down the temperature after the fever. In every case during the fever the secretion of sweat is less than when the temperature has fallen, but as then the secretion is still rather more than in healthy individuals and in typhoid fever patients whose temperature has fallen, probably the sweat secreted during fever is not much less than before the fever began. Therefore it appears that the diminution of the loss of heat owing to a dimunition in the amount of sweat secreted plays but a small part in raising the temperature. In only two cases did the surface temperature rise less than the internal, and in two it rose more (this explains the hot skin of pneumonia), therefore often in pneumonia the loss by radiation and conduction during the fever must be enormous. As, therefore, in pneumonia the loss of heat is so increased, the rise of temperature is for the most part due to an increased production of heat.

III. *Erysipelas* (see Table XIII.).—In both these cases the sweat was increased during the fever, and the surface temperature rose more than the internal temperature, so the dissipation of heat by evaporation, conduction, and radiation must have been very much increased. Consequently, the rise of temperature must have been entirely due to an increased production of heat, and not at all to a diminution of the loss.

TABLE X.—TEMPERATURE RAISED BY DAMAGE TO THE BRAIN.

| Case. | Date. | Temperature in the axilla, paralysed side. | Temperature in the axilla, non-paralysed side. | Axillary difference on paralysed side. | Surface temperature on paralysed forearm. | Surface temperature on non-paralysed forearm. | Surface difference on paralysed side. | Milligrammes of sweat on paralysed forearm in ten minutes. | Milligrammes of sweat on non-paralysed fore-arm in ten minutes. | Difference in milligrammes of sweat on paralysed forearm. | Remarks. |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Deg. F. | Deg. F. | Deg. F. | Deg. F. | Deg. F. | Deg. F. | | | | |
| Man.—Right cerebral hæmorrhage, left hemiplegia. Onset July 11th, 1896. | July 13th, 1896 (morning) | 100·8 | 100 | + 0·8 | 92·8 | 92·8 | 0 | 41·1 | 21·2 | + 19·9 | Increased sweat on paralysed side in both cases obvious to feel. The skin was gently wiped before observations; no vascular difference was visible. |
| | July 13th, 1896 | 100·6 | 100 | + 0·6 | 93·2 | 93·2 | 0 | 13·5 | 4·3 | + 8·2 | |
| Man.—Right cerebral hæmorrhage, left hemiplegia. Onset, Aug. 8th, 1896. | Aug. 22nd, 1896 | 97·8 | 97·0 | + 0·8 | 93·6 | 92·8 | + 0·8 | 5·4 | 6·1 | − 0·7 | No vascular difference was ever visible. (In both patients the observations on the two sides were always simultaneous.) |
| | Aug. 23rd, 1896 | 77·0 | 96·6 | + 0·4 | 92·3 | 91·8 | + 1·0 | 8·1 | 4·3 | + 3·8 | |
| | Aug. 24th, 1896 | 98·2 | 98·0 | + 0·2 | 94·4 | 93·8 | + 0·6 | 8·3 | 5·9 | + 2·4 | |

TABLE XI.—TYPHOID FEVER.

| Case. | Date. | Mouth temperature. | Abdominal surface temperature. | Mouth exceeded surface by— | Excess of mouth during fever. | Excess of surface during fever. | During fever surface rose more or less than mouth. | Milligrammes of sweat from abdomen in ten minutes. | Greater or less sweat during fever in milligrammes. | Remarks. |
|---|---|---|---|---|---|---|---|---|---|---|
| | | Deg. F. | Deg. F. | Deg. F. | Deg. F. | Deg. F. | Deg. F. | | | |
| 1. | June 9th, 1896 | 102·0 | 95 | 7·0 | — | — | — | 0·7 | — | — |
| | July 2nd, 1896 | 98·2 | 92 | 6·2 | 3·8 | 3·0 | − 0·8 | 2·1 | − 1·4 | |
| 2. | June 9th, 1896 | 102·0 | 97·8 | 4·2 | — | — | — | 1·1 | — | — |
| | July 2nd, 1896 | 98·0 | 93·2 | 4·8 | 4·0 | 4·6 | + 0·6 | 1·3 | − 0·2 | |
| 3. | Oct. 22nd, 1896 | 102·6 | 96·0 | 6·6 | — | — | — | 0 | — | — |
| | Oct. 23rd, 1896 | 103·0 | 96·0 | 7·0 | — | — | — | — | — | |
| | Nov. 3rd, 1896 | 99·4 | 94·8 | 4·6 | 3·6 | 1·2 | − 2·4 | 3·0 | − 3·0 | |
| 4. | Oct. 22nd, 1896 | 103·0 | 97·2 | 5·8 | — | — | — | 1·4 | — | — |
| | Oct. 23rd, 1896 | 102·8 | 97·5 | 5·3 | — | — | — | 0 | — | |
| | Nov. 3rd, 1896 | 98·8 | 95·2 | 3·6 | 4·2 | 2·0 | − 2·2 | 7·2 | − 5·8 | |
| 5. | Dec. 3rd, 1896 | 104·0 | 93·2 | 10·8 | — | — | — | 1·0 | — | A mild case. The first observation was on the eleventh day of the illness. The contrast has been made between this (because the fever was then at its height) and the last. |
| | Dec. 4th, 1896 | 102·4 | 93·2 | 9·2 | — | — | — | 1·0 | — | |
| | Dec. 5th, 1896 | 100·6 | 95·0 | 5·6 | — | — | — | 7·0 | — | |
| | Dec. 6th, 1896 | 102·2 | 100·4 | 1·8 | — | — | — | 0 | — | |
| | Dec. 7th, 1896 | 99·0 | 91·4 | 7·8 | — | — | — | 0 | — | |
| | Dec. 8th, 1896 | 99·8 | 93.2 | 6·6 | — | — | — | 1·0 | — | |
| | Dec. 9th, 1896 | 98·4 | 91·4 | 7·0 | — | — | — | 1·5 | — | |
| | Dec. 10th, 1896 | 99·4 | 93·2 | 6·2 | — | — | — | 2·5 | — | |
| | Dec. 11th, 1896 | 98·4 | 91·4 | 7·0 | 5·3 | 1·3 | − 3·8 | 3·0 | − 2·0 | |
| 6. | April 10th, 1896 | 102·7 | 96·8 | 6·9 | — | — | — | 2·2 | — | Patient died from hæmorrhage. |
| | April 14th, 1896 | 102·8 | 96·4 | 6·4 | — | — | — | 0·7 | — | |
| | April 18th, 1896 | 103·0 | 96·6 | 6·4 | — | — | — | 1·2 | — | |
| 7. | May 2nd, 1896 | 104·0 | 96·8 | 7·2 | — | — | — | 1·3 | — | Patient died very soon after the last observation from intensity of disease. |
| | May 11th, 1896 | 105·6 | 101·3 | 4·3 | — | — | — | 0·9 | — | |
| | May 14th, 1896 | 102·3 | 99·2 | 3·1 | — | — | — | 1·9 | — | |

TABLE XII.—PNEUMONIA.

| Case. | Date. | Mouth temperature. | Abdominal surface temperature. | Mouth exceeded surface by— | Excess of mouth during fever. | Excess of surface during fever. | During fever surface rose more or less than mouth. | Milligrammes of sweat from abdomen in ten minutes. | Greater or less sweat during fever in milligrammes. | Remarks |
|---|---|---|---|---|---|---|---|---|---|---|
| | | Deg. F. | Deg. F. | Deg. F. | Deg. F. | Deg. F. | Deg. F. | | | |
| 1. | March 6th, 1896 | 104·2 | 97·6 | 6·6 | — | — | — | 1·8 | — | First observation taken immediately before the crisis. |
| | March 10th, 1896 | 94·6 | 92·6 | 7·0 | 4·6 | 5·0 | + 0·6 | 2·4 | - 0·6 | |
| 2. | April 30th, 1896 | 103·6 | 97·8 | 5·8 | — | — | — | 4·1 | — | Second observation taken a few days after the crisis. |
| | May 7th, 1896 | 93·8 | 93·0 | 5·8 | 4·8 | 4·8 | 0 | 5·9 | - 1·8 | |
| 3. | July 11th, 1896 | 103·8 | 95·8 | 7·0 | — | — | — | 2·1 | — | Second observation taken four days after the crisis. |
| | July 20th, 1896 | 98·0 | 95·0 | 3·0 | 5·8 | 1·3 | - 4·0 | 5·6 | - 3·5 | |
| 4. | Nov. 23th, 1895 | 102·8 | 96·0 | 6·8 | — | — | — | 2·2 | — | Second observation taken just at the end of the crisis. |
| | Nov. 30th, 1895 | 98·0 | 92·2 | 5·8 | — | — | — | 40·0 | — | |
| | Dec. 2nd, 1896 | 93·4 | 92·2 | 6·2 | — | — | — | 12·0 | — | |
| | Dec. 3rd, 1896 | 93·0 | 92·2 | 5·8 | — | — | — | 13·0 | — | |
| | Dec. 11th, 1896 | 98·0 | 93·0 | 4·8 | 4·8 | 3·0 | - 1·8 | 5·5 | - 3·3 | |
| 5. | Dec. 10th, 1896 | 104·0 | 100·4 | 3·6 | — | — | — | 3·5 | — | Second observation taken a few days after the crisis. |
| | Dec. 17th, 1895 | 93·0 | 92·2 | 5·8 | 6·0 | 8·2 | + 2·2 | 5·0 | - 1·5 | |

TABLE XIII.—ERYSIPELAS.

| Case. | Date. | Mouth temperature. | Abdominal surface temperature. | Mouth exceeded surface by— | Excess of mouth during fever. | Excess of surface during Fever. | During fever surface rose more or less than mouth. | Milligrammes of sweat from abdomen in ten minutes. | Greater or less sweat during fever in milligrammes. | Remarks. |
|---|---|---|---|---|---|---|---|---|---|---|
| | | Deg. F. | Deg. F. | Deg. F. | Deg. F. | Deg. F. | Deg. F. | | | |
| 1. | Aug. 18th, 1896 | 102·8 | 101·4 | 1·4 | — | — | — | 4·2 | — | — |
| | Aug. 19th, 1896 | 102·4 | 100·4 | 2·0 | — | — | — | 3·9 | — | — |
| | Aug. 22nd, 1896 | 98·6 | 94·6 | 2·0 | 4·2 | 6·8 | + 2·6 | 3·2 | + 1·0 | — |
| 2. | June 30th, 1896 | 100·2 | 96·8 | 3·4 | — | — | — | 3·2 | — | — |
| | July 2nd, 1896 | 97·0 | 92·8 | 4·2 | 3·2 | 4·0 | + 0·8 | 1·4 | + 1·3 | — |

TABLE XIV. A.—SUPPURATION.

| Case. | Date. | Mouth temperature. | Abdominal surface temperature. | Mouth exceeded surface by | Excess of mouth during fever. | Excess of surface during fever. | During fever surface rose more or less than mouth. | Milligrammes of sweat from abdomen in ten minutes. | Greater or less sweat during fever in milligrammes. | Remarks. |
|---|---|---|---|---|---|---|---|---|---|---|
| | | Deg. F. | Deg. F. | Deg. F. | Deg. F. | Deg. F. | Deg. F. | | | |
| 1. | April 30th, 1896 | 105·6 | 96·5 | 8·1 | — | — | — | 0·3 | — | Abscess due to appendicitis. Opened May 9th, 1896. |
| | May 2nd, 1896 | 103·8 | 98·6 | 5·2 | — | — | — | 0·2 | — | |
| | May 11th, 1896 | 102·4 | 96·8 | 3·6 | — | — | — | 5·9 | — | |
| | Compared with first observation ... ... ... | | | | 3·2 | - 1·3 | - 4·5 | — | - 5·6 | — |
| | Compared with second observation ... ... ... | | | | 3·4 | 1·3 | - 1·6 | — | - 6·7 | — |
| 2. | March 9th, 1896 | 104·0 | 94·0 | 8·0 | — | — | — | 3·0 | — | Abscess connected with perforating ulcer. Opened March 10th, 1896. |
| | March 12th, 1896 | 99·6 | 91·0 | 8·6 | 4·4 | 3·0 | - 1·4 | 5·0 | - 2·0 | |

IV. *Suppuration* (see Table XIV. A).—Here the considerable amount of sweat secreted after the abscess was opened and the temperature had fallen appears to show that sweating helped to keep the temperature down. In the first case at least the quantity secreted during the fever was so small that the raised internal temperature may have been partly due to a diminished loss of heat from lessened evaporation. In both cases, too, there was a diminished loss from radiation and conduction, for the rise of surface temperature was less than that of the internal temperature, in fact, on one occasion, the surface temperature was actually lower during the fever than when the internal temperature had fallen, and that although there was no excessive evaporation of sweat to bring it down. We may conclude that in these two cases of suppuration the raised internal temperature was, in part at least, due to a diminution in the loss of heat.

V. *Tubercle* (see Table XIV. AA).—I have made several observations on patients who were suffering from tubercle. Although the temperature fluctuates considerably they are always suffering from their disease, and therefore it is very difficult to obtain a normal standard. Consequently, I do not think the figures teach much about the process of this fever. You will notice, however, that the amount of sweat secreted is large even when the temperature is low, so that no doubt the increased secretion of sweat is often the cause of the fall of temperature. It is interesting to notice that, on the whole, the cases of general tuberculosis secreted less sweat than those of phthisis. In both forms of disease the surface temperature is, as a rule, low; this may be due to the large amount of sweat secreted. As the evaporation of this sweat must lead to a considerable loss of heat it is probable that in tubercle the production of heat is, as a rule, increased.

TABLE XIV. AA.—TUBERCLE.

| Case | Date. | Mouth temperature. | Surface temperature. | Mouth exceeded surface by— | Milligrammes of sweat from abdomen in ten minutes. | Remarks. |
|---|---|---|---|---|---|---|
| 1 | May 20th, 1896 | 103·0 | 96·8 | 6·2 | 9·3 | Phthisis; bad case. |
| | May 31st, 1896 | 103·8 | 98·0 | 5·8 | 5·1 | |
| | June 2nd, 1896 | 98·2 | 95·8 | 2·4 | 6·2 | |
| 2 | March 16th, 1896 (4 P.M.) | 104·0 | 96·4 | 7·6 | 30·0 | Phthisis; bad case. Sweat observations taken in palm, but even for the palm the amount is very great. |
| | March 17th, 1896 (1 A.M.) | 102·6 | 95·9 | 6·7 | 9·2 | |
| | March 17th, 1896 (5 P.M.) | 104·0 | 96·8 | 7·2 | 30·6 | |
| | March 18th, 1896 (1 A.M.) | 103·8 | 95·2 | 8·6 | 28·6 | |
| | March 18th, 1896 | 104·2 | 94·9 | 9·3 | 12·8 | |
| 3 | Nov. 23rd, 1896 | 99·0 | 97·0 | 2·0 | — | Phthisis. |
| | Nov. 23rd, 1896 | 99·2 | 97·0 | 2·2 | 5·0 | |
| | Nov. 23rd, 1896 | 98·0 | 94·2 | 3·8 | 8·0 | |
| 4 | Nov. 26th, 1896 | 100·5 | 95·0 | 5·5 | 4·0 | Phthisis. |
| | Nov. 30th, 1896 | 99·0 | 91·4 | 7·6 | 8·0 | |
| 5 | Nov. 25th, 1896 | 100·8 | 92·2 | 8·6 | 3·0 | Phthisis. |
| | Nov. 28th, 1896 | 98·8 | 92·2 | 5·8 | 9·0 | |
| | Dec. 1st, 1896 | 99·2 | 92·2 | 7·0 | 3·0 | |
| 6 | June 10th, 1896 | 104·0 | 100·4 | 3·6 | 1·9 | General Tuberculosis. |
| | June 11th, 1896 | 104·5 | 99·5 | 5·0 | 1·1 | |
| 7 | Oct. 28th, 1896 | 101·2 | 97·8 | 3·6 | 3·3 | General Tuberculosis. |
| 8 | Oct. 28th, 1896 | 101·4 | 97·8 | 3·6 | 4·0 | General Tuberculosis. |

It appears from these observations that in some fevers the pyrexia is, in part at least, due to a diminished loss of heat, in others this is of but slight importance, and then the production of heat is very great; and this result goes to prove the truth of the suggestion I made earlier in these lectures—namely, that the processes which lead to a rise in temperature are different in different fevers. We have also incidentally learned much about the surface temperature and the secretion of sweat in the fevers we have considered.

Before leaving this subject I should like to draw your attention to some interesting figures obtained from a case of leucocythæmia. There was one white corpuscle to every ten red. The hæmoglobin was reduced to 17 per cent. of the normal, and the red corpuscles to 24 per cent. An observation gave the following result. The temperature of the mouth was 102·2°. The surface temperature at the umbilicus was 102·2°. The amount of sweat secreted in ten minutes was 1·2 milligramme. There are two points of interest here. First we have the high surface temperature with very little sweat; probably it would be impossible to have so high a surface temperature if there were much sweat, for the evaporation of the sweat would reduce it. Secondly, as the surface temperature was so high the loss by radiation and conduction must have been excessive, so the production must have been very high, and therefore even the small amount of hæmoglobin and the plasma carried between them enough oxygen for the metabolism necessary for this increased production. My best thanks are due to my house physicians, Dr. A. Salter and Mr. C. J. Harnett, for much help in these investigations. I have many observations on other fevers which I hope to publish subsequently.

Maragliano has published some observations which do not bear on the question of the production of heat, but they at any rate show that in some fevers the temperature depends very much upon the state of the cutaneous circulation—that is to say, upon the loss from radiation and conduction. He[4] applied the plethysmograph to the arm of fever patients after experiments on healthy men, and, in the fevers upon which he experimented, he found that as the temperature rose the volume of the arm diminished, and as the volume of the arm is chiefly dependent upon the flow of blood through the vessels of the skin, it follows that this was diminished; in other words, less heat was lost by radiation and conduction when the temperature rose. The table I show you gives the results obtained by observing a man suffering from malaria (see Table XIV. B).

TABLE XIV. B

| Time. | Volume of arm. | Temp. (Deg. C.). |
|---|---|---|
| 10.50 | 100 | 36·8 |
| 10.55 | 100 | 36·9 |
| 11.15 | 97 | 36·3 |
| 11.20 | 96 | 35·8 |
| 11.30 | 88 | 36·0 |
| 12.0 | 85 | 36·8 |
| 12.15 | 80 | 36·3 |
| 12.30 | 80 | 36·8 |
| 1.0 | 70 | 36·8 |
| 1.15 | 65 | 37·0 |
| 1.30 | 60 | 37·3 (slight shiver) |
| 1.35 | 57 | 37·5 |
| 1.50 | 54 | 37·7 |
| 2.0 | 53 | 39·3 |
| 2.10 | 53 | 39·5 |
| 2.20 | 51 | 39·0 |
| 2.25 | 50 | 39·2 |
| 2.30 | 50 | 39·5 |
| 2.40 | 49 | 39·6 |

It will be observed that the contraction of the vessels preceded the rise of temperature. This is very strongly suggestive that it was the cause of it, and in the following table (I have only quoted the part of it which refers to the rise of the volume of the arm) (Table XIV. C) which gives results obtained from a young man suffering from ague, we also see that the vessels begin to dilate before the temperature begins to fall—a fact which also strongly suggests that the fall of temperature was due to the increased vascular cutaneous dilatation.

I should now like to refer to some observations which Dr. Archibald Garrod and I made upon each other with the object of finding out how healthy individuals varied their loss of heat under different circumstances. Table XV. shows the results of six pairs of observations made upon us, each pair being made at the same time. The first five pairs were all made after dinner in the evening. It will be

[4] Das Verhalten der Blutgefasse im Fieber und bei Antipyrese. Zeitschrift für Klinische Medicin, Band 14, 1888.

TABLE XV.

| Date. | Time. | Temperature of air. | | Observations on Dr. Garrod. | | | Observations on self. | | | Remarks. |
|---|---|---|---|---|---|---|---|---|---|---|
| | | Dry bulb thermometer. | Wet bulb thermometer. | Mouth temperature. | Temperature of surface of abdomen. | Milligrammes of sweat in ten minutes from abdomen. | Mouth temperature. | Temperature of surface of abdomen. | Milligrammes of sweat in ten minutes from abdomen. | |
| | | Deg. F. | Deg. F. | Deg. F. | Deg. F. | | Deg. F. | Deg. F. | | |
| April 6th, 1896. | 9.30 p.m. | 66·5 | 60·0 | 97·8 | 91·3 | 2·8 | 98·2 | 92·7 | 2·8 | 1 hour after dinner. |
| April 7th, 1896. | 9 p.m. | 67·0 | 61·8 | 98·5 | 89·6 | 2·1 | 98·4 | 93·2 | 3·0 | 1½ hours after dinner. |
| April 11th, 1896. | 9.15 p.m. | 67·8 | 57·2 | 98·6 | 89·6 | 2·3 | 98·4 | 93·2 | 3·6 | 1½ hours after dinner. |
| April 13th, 1896. | 9 p.m. | 61·3 | 53·1 | 98·5 | 92·2 | 2·0 | 98·3 | 90·4 | 2·5 | 1½ hours after dinner. |
| April 14th, 1896. | 10.15 p.m. | 63·5 | 58·0 | 98.5 | 91·3 | 1·9 | 98·3 | 91·7 | 3·4 | 1½ hours after dinner. |
| April 15th, 1896. | 9.30 a.m. | 60·0 | 54·0 | 97·5 | 96·4 | 2·8 | 98·6 | 93·0 | 2·8 | 1½ hours after breakfast; bath before breakfast. |

TABLE XVI.—EFFECT OF EXERCISE ON DR. GARROD.

| Date. | Mouth temperature before exercise. | Mouth temperature after exercise. | Variation. | Abdominal surface temperature before exercise. | Abdominal surface temperature after exercise. | Variation. | Milligrammes of sweat in 10 minutes from abdomen before exercise. | Milligrammes of sweat in 10 minutes from abdomen after exercise. | Variation. | Form of exercise. |
|---|---|---|---|---|---|---|---|---|---|---|
| | Deg. F. | Deg. F. | Deg. F. | Deg. F. | Deg. F. | Deg. F. | | | | |
| April 19th, 1896. | 97·8 | 98·6 | + 0·8 | 87·0 | 92·7 | + 5·7 | 2·4 | 4·4 | + 2·0 | 3½ miles fast walking. |
| May 10th, 1896. | 97·7 | 98·5 | + 0·8 | 89·6 | 92·2 | + 2·6 | 2·0 | 0·8 | - 1·2 | 5 miles fast walking. |
| May 13th, 1896. | 97·4 | 97·6 | + 0·2 | 87·0 | 94·5 | + 7·5 | 1·5 | 3·6 | + 2·0 | 7½ miles bicycle ride in 1 hr. in hot sun. |
| May 20th, 1896. | 97·4 | 97·8 | + 0·4 | 88·8 | 94·5 | + 5·7 | 1·9 | 4·3 | + 2·4 | 6 miles bicycle ride in 50 minutes. |
| June 13th, 1896. | 97·4 | 98·5 | + 1·1 | 89·0 | 92·75 | + 3·75 | 2·5 | 19·2 | +16·7 | 8 miles bicycle ride in very hot sun. |
| Oct. 11th, 1896. | 97·8 | 96·8 | - 1·0 | 89·0 | 91·4 | + 2·4 | 1·3 | 1·2 | - 0·6 | 17 miles bicycle ride in a very cold N.E. wind. |

TABLE XVII.—EFFECT OF EXERCISE ON SELF.

| Date. | Mouth temperature before exercise. | Mouth temperature after exercise. | Variation. | Abdominal surface temperature before exercise. | Abdominal surface temperature after exercise. | Variation. | Milligrammes of sweat in 10 minutes from abdomen before exercise. | Milligrammes of sweat in 10 minutes from abdomen after exercise. | Variation. | Form of exercise. |
|---|---|---|---|---|---|---|---|---|---|---|
| | Deg. F. | Deg. F. | Deg. F. | Deg. F. | Deg. F. | Deg. F. | | | | |
| April 19th, 1896. | 98·2 | 98·4 | + 0·2 | 91·4 | 91·1 | - 0·3 | 3·0 | 9·3 | + 6·3 | 3½ miles fast walking with Dr. G. |
| May 10th, 1896. | 98·2 | 98.8 | + 0·6 | 94·1 | 93·6 | - 0·5 | 3·7 | 6·8 | + 3·1 | 5 miles fast walk with Dr. G. |
| May 17th, 1896. | 98·4 | 98·4 | 0 | 90·5 | 91·4 | + 0·9 | 2·4 | 21.9 | + 19·5 | One hour's hard walk on a very hot day. |
| June 20th, 1896. | 98·0 | 98·2 | + 0·2 | 93·5 | 92·6 | - 0·9 | 3·3 | 16·0 | + 12·7 | One hour's hard walk, but in a strong wind. |
| Oct. 11th, 1896. | 98·2 | 97·4 | - 0·8 | 89·8 | 89·5 | - 0·3 | 0·5 | 1·4 | + 0·9 | 17 miles bicycle ride in a very cold N.E. wind with Dr. G. |
| Oct. 20th, 1896. | 98·2 | 98·2 | 0 | 89·5 | 88·6 | - 0·9 | 0·5 | 0·3 | - 0·2 | 14 miles bicycle ride in a very dry cold wind. |

noticed that in these five pairs the temperature of the mouth of both of us was almost the same, but that four times out of the five my surface temperature was higher than his—on two occasions (the second and third) as much as 3·6° F. A possible explanation for the fact that on the fourth occasion my surface temperature was lower than his is that we made the observations in his house, which is about 200 yards from mine, and on the evening on which this observation was made I strolled to his house after dinner while there was a cold north-east wind blowing. On four out of the five occasions I sweated more than he did. The whole amount I perspired during the five observations was 15·3 milligrammes, but his

TABLE XIV. C.—YOUNG MAN WITH AGUE.

| Time. | Volume of arm. | Temp. (Deg C.). |
|---|---|---|
| 11.0 | 60 | 39·9 |
| 11.10 | 62 | 40·3 |
| 11.30 | 60 | 40·6 |
| 11.45 | 68 | 40·6 |
| 12.0 | 76 | 40·6 |
| 12.15 | 74 | 40·6 |
| 12.30 | 78 | 40·5 |
| 12.45 | 82 | 40·3 |
| 1.0 | 82 | 40·4 |
| 1.15 | 90 | 40·2 |
| 1.30 | 96 | 40·0 |
| 2.0 | 108 | 40·0 |
| 2.30 | 120 | 40·0 |
| 3.0 | 126 | 39·8 |
| 3.30 | 133 | 39·7 |
| 4.0 | 138 | 39·5 |
| 4.30 | 143 | 39·4 |
| 5.0 | 149 | 38·9 |

total amount was only 11·1, so that I perspired 38 per cent. more than he did. As, therefore, my surface temperature was higher and the amount of sweat that I secreted was greater I lost heat from radiation, conduction, and evaporation faster than he, and therefore my production per kilogramme was greater than his. We consequently learn that even healthy individuals vary much in their production and loss of heat. The last pair of observations is of little value, as the temperature of our baths was not the same. I have given in the table the temperature of the air, taken with both a wet and dry bulb thermometer. The air was driest on April 11th, on which day I sweated most, but this was not the day that Dr. Garrod sweated most; and on the next driest day I sweated less than on any other, so as far as these few observations go they do not show any relation between the humidity of the air and the amount of sweat secreted.

It is well known that muscular contraction is accompanied by a rise of temperature; therefore, were it not that the loss of heat is increased during exercise the temperature would always rise. In fact, often the increased loss does not compensate for the increased production, and so the temperature does rise. Many references to this subject are given by Pembrey.[5] Jurgensen found that the work involved in sawing wood for six hours raises the temperature of a healthy man 1·2° C. above normal. Davy showed that walking for two or three hours raised the temperature of the urine 0·8° C. Clifford Allbutt found that Alpine climbing raised the temperature of the mouth half a degree, and Liebermeister and Hoffman found their axillary temperature raised by the exertion both of coming up and going down a mountain. Hobday, too, has taken the rectal temperature of omnibus horses, and he finds that it is raised about 2° C. by hard work. Dr. Garrod and I thought, therefore, it would be of interest to make a series of observations on the effect of exercise on each other (see Tables XVI. and XVII.). It will be seen that a bicycle ride of seventeen miles in a high, dry, cold wind reduced the internal temperature of Dr. Garrod by 1·0, and my own by 0·8 of a degree I do not think this can have been due to the inhalation of cold air cooling the mouth, for we did not take the temperature of the mouth until we had been in the house for twenty minutes after the ride, and it must have been due to the rapid loss of heat caused by our going quickly through the high, dry, cold wind. With the exception of this bicycle ride it will be seen that exercise always raised Dr. Garrod's internal temperature and that mine was either unaltered or raised, but that mine was, on the whole, much less affected than his. There are other interesting points of contrast between us. Dr. Garrod's surface temperature was always considerably raised by exercise, while mine was usually slightly diminished. On the other hand, he sweated but little in comparison with me, for his average increased amount of sweat was 3·5 millligrammes, while mine was 7·05. The difference is really greater than this, for I took two bicycle rides in a cold, dry wind to his one, and in a very dry wind the sweat evaporates fast, and consequently not much is secreted when the observation is taken. Apparently, therefore, we are different in our methods of accommodating the loss of heat to the increased production due to the muscular exercise; he chiefly increased his radiating and conducting power; I chiefly increased my loss by evaporation. We have therefore a demonstrated proof that different people accommodate differently. These tables, too, show strikingly what Table XV. has already shown—namely, that when at rest my surface temperature is always higher than Dr. Garrod's, and that I perspire more than he does; in other words, I lose heat faster and therefore must produce more calories per kilogramme. As in fever, so here the data are not sufficient for us to say how many calories of heat the muscular exercise causes to be produced—we can only say that it must at least have been more than a certain number, for instance, my weight without my clothes is 61 kilogrammes; supposing the effect of exercise was to raise my temperature 0·5° C., and the loss by radiation, conduction, and evaporation were all increased, then I, as soon as when taking exercise I had raised my temperature the half a degree Centigrade, must have produced at least more than an additional 30·5 kilogramme Centigrade calories, as my specific heat is nearly that of water.

[5] Op. cit.

## ON SOME SUPPURATIONS OF THE URINARY APPARATUS.[1]

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I HAVE selected for consideration some points which seem to arise out of the pathology of certain suppurative processes as observed in the urinary organs in relation to the more modern treatment of surgical lesions and infections as generally practised. I shall first illustrate my observations by taking the most common, as well as the farthest reaching, cause of suppurations of the urinary organs, as occurring in the form of primary gonorrhœal infections in the male and the female, and as secondary developments in other parts of the genito-urinary system, as more frequently observed in the latter sex. The advances that have been made in connexion with the bacteriology of the urinary organs in reference to the kind and extent of these infections have already led to some useful applications in the way of treatment which I will briefly notice. The investigations of Guyon, Janet, Hallé, and others of the French school, more particularly as regards the life-history and cultivation of these micro-organisms, are of much interest and importance. It is, however, to the practical aspect of the subject that I shall confine my remarks. The first point that strikes one is that many of the cases spoken of as instances of chronic suppurative urethritis or gleet represent a far more extensive invasion than is generally supposed to be the case. In this lies, I have no doubt, an explanation of the difficulty that is not infrequently experienced in bringing cases of this kind to a successful and speedy termination. Many gleets are merely re-infections of the urethra from a bladder which serves the purpose of a medium for bacterial cultivation. So long as a gonorrhœa is confined to the area of the urethra as defined by that portion of the canal which lies in front of the compressor urethræ or "cut off" muscle,

[1] A paper read before the Medical Society of Prixton on June 10th, 1897.

the task of successfully combating the infecting suppuration is not usually a difficult one. The disease is within limits which can be readily acted upon by various agencies, administered either locally or by internal medication, and its course is generally limited both in severity and duration. When, however, these boundaries are exceeded and the bladder becomes invaded it is not easy to prevent re-infection taking place as if from an extraneous source. Hence the disease may be almost indefinitely protracted. Nor is invasion of the bladder in this way uncommon or necessarily indicated by acute symptoms such as would unmistakeably draw attention to the occurrence. In most instances of this the prostate is the only part of the urinary apparatus that may show any active indication of contact with the septic products, the mucous membrane of the bladder, though harbouring them, being singularly insensitive to bacterial influences. That infection occurs in this way can be readily demonstrated. When the bladder has been thus involved the conditions of the urinary organs, particularly during the night, are extremely favourable for bacterial cultivations, a circumstance which may explain the constancy and degree of matutinal suppuration exuded by the urethra which is a prominent symptom in this class of cases. It is rare, I believe, for gonorrhœal organisms to make their way up the ureters and to invade the kidneys—a fact which is no doubt due to the guarded manner in which these ducts enter the bladder and the constancy of the downward flow of the urine. That renal infection and urethral inflammation sufficient to cause a pyelitis of the former and a contraction or stricture of the latter can occur has been demonstrated as possible. Some years ago I examined the body of a middle-aged man who died from acute single pyelitis rapidly following upon a first attack of gonorrhœa. The ureter of the kidney involved was extremely dilated, a circumstance which was believed to be due to the patient having been in the habit for some years previously of passing renal calculi The opposite kidney was much congested. Mr. W. G Nash[2] has recorded a case of strictured ureter which was probably caused in this way. In the female the widespread effects of the gonorrhœal infection are generally recognised.

The suspicion, however, that the bladder may be infected with micro-organisms should be made a matter of proof, and this can generally be done. For this purpose care should be taken to obtain a specimen of the urine as it exists in the bladder, minus any contaminations it may pick up in its transit along the urethra. The first portion of the urine passed should be rejected as probably containing the flushings of the canal, the balance being separately collected as representing the constituents of what may be called vesical urine. When it is possible a catheter specimen should be obtained, in accordance with the directions of the Clinical Research Association, where there are reasons for believing that the bladder is infected. In this way gonococci may be detected in vesical urine in cases of gonorrhœa. The mere fact that the urine is shown to contain bacteria does not necessarily imply that the individual is capable of inoculating another with gonorrhœa. Where, however, the gonococcus is discovered in the urine or the discharges of the patient, as is not unfrequently the case, I do not think there can be any doubt as to the possibility of its communication to some one else. The bacteriological examination of these secretions may furnish important evidence in determining whether a person who has been comparatively recently infected should be allowed to marry. So long as these conveyers of infection can be detected in the urine or the discharges, so long may we expect that transference of the disease is liable to follow. In these cases of secondary infection of the bladder, caused by extension from the urethra, I have for some time placed much reliance upon the irrigation of the bladder and urethra with antiseptics, as described by Dr. Janet,[3] with some modifications. The object is attained in the following manner. The apparatus consists of an ordinary hydrostatic bladder tank, holding about one pint of water and fitted with a nozzle to which a No. 8 Jacques' rubber catheter can be attached. The tank is elevated about six feet from the ground, and is filled with warm water containing 30 minims of Condy's fluid to a pint of the latter. For lubricating the catheter I use carbolised vaseline. The patient having emptied his bladder spontaneously is placed in the recumbent position and the catheter is then passed. Before the nozzle of the irrigator is connected with the catheter as it lies in the bladder the fluid is allowed to run off for a few seconds so as to ensure that there is no free air in the tube of the apparatus. Then the connexion is made and the fluid is allowed to flow into the bladder by degrees until the patient is conscious of feeling distention. I generally use from twelve to sixteen ounces for this purpose, allowing it to enter the bladder in jets of about three or four ounces at a time. In this way the feeling of any sudden or extreme fulness is avoided, and the entire area of the mucous membrane of the bladder is unfolded and opened out, and thus comes in contact with the permanganate solution. When a sufficient degree of bladder distension is obtained the catheter is slowly removed, care being taken not to allow the fluid to escape. I then usually lightly palpate the bladder above the pubes with the hand before the patient stands up. This he should then do and proceed to empty his bladder of its contents by his natural efforts. Thus not only is the bladder washed out, but the whole urethra is flushed in a manner that is impossible by any other artificial method. As the patient is voiding the contents of his bladder it is well to direct him to suddenly interrupt the outflow once or twice by pressure with the finger on the penile urethra. In this way the lacunæ of the canal are also distended and flushed by the irrigating fluid. This completes the process, which may be repeated once or twice in the twenty-four hours, until the urine and the urethral mucus are found free from organisms. Most patients after proper instruction will be able to carry out all these details. On the conclusion of each irrigation the patient should rest for a time in the recumbent position. I have only referred to the permanganate of potash in great dilution as the flushing agent for use in these cases. Half a drachm of Condy's solution, as I have already mentioned, gradually increased to a drachm in a pint of water, has given me good results. In other instances the preparation known as "Sanitas," in the proportion of an ounce to a pint of water, has also answered equally well. Neutral sulphate of quinine (1 grain to the ounce) may also be used. More rarely I have employed nitrate of silver (one-sixteenth grain to the ounce) and perchloride of mercury. The last sometimes produces a good deal of pain, though only used in the proportion of 1 in 10,000. I have no doubt for aborting infections the perchloride is the most effective. When used for the latter purpose in the proportion of 1 in 10,000, and after the solution has been spontaneously voided from the bladder as in the act of micturition, the bladder may be filled with a strained solution of albumin—say, that yielded by one fresh egg—in a pint of tepid or nearly cold water. If this is done and the albuminoid solution voided in like manner from the bladder, any pain, smarting, or spasm that the perchloride solution produced at once ceases. Similarly, a weak solution of chloride of sodium, injected into the bladder after a solution of nitrate of silver has been used for this purpose, not only removes any irritation the latter may provoke, but coats over the inflamed mucous membrane with a thin layer of chloride of silver, which often affords much relief when cystitis is present. Probably there is no better bactericide than nitrate of silver in these cases, but it requires to be used with the precautions mentioned when good results may be obtained. In this class of cases where suppuration proceeds directly from infection the internal administration of bactericides may be advantageously combined with the local treatment just referred to. In rendering the urine sterile and destructive to the life of the gonococcus there are no more effectual agencies than some of those which are derived from the vegetable kingdom. I refer particularly to the volatile oils which are so largely eliminated by the kidneys of which I may instance sandal wood, copaiba, cubebs, and similar drugs. By these it is possible to so saturate the urine as to render the existence of certain forms of bacteria impossible. I shall, however, refer later to other methods of sterilising the urine which may also be utilised in the treatment of infecting forms of urethritis and cystitis.

I will now notice other varieties of urinary suppurations which may be best illustrated by certain cases of prostatic obstruction. Though the urine is in these instances usually purulent and charged with bacteria the latter are not infective in the same sense as those I have previously referred to in connexion with a specific form of urinary suppuration. On the other hand, it must be remembered that these micro-organisms are readily capable of transference from one individual to another through the medium of catheters and

[2] Brit. Med. Jour., April 8th, 1893.
[3] Journal des Maladies Génito-Urinaires, Paris, 1896.

instruments of this kind, and thus they may be regarded as factors in the causation of extensive and far-reaching suppurations in these parts. The principles of treatment in this class of suppurations are the same as those I have already mentioned, subject to certain modifications which I will proceed to notice. Putting aside the consideration of the precise means which these cases often require for mechanically emptying the bladder and thus preventing decomposition of the urine taking place, the restoration of the secretion to its normal state will be mainly brought about by antiseptics in the manner indicated. The more or less atonic condition of the bladder in these obstructive cases seldom permits us to employ the process of auto-irrigation as previously described, and we must therefore for this purpose avail ourselves of one or other of the methods usually practised. In offering a few remarks on the toilette of the bladder I will do so in reference—(1) to the disposition of the parts requiring ablution; (2) to the mechanism employed; and (3) to the composition of the cleansing fluid. Most of us, I think, will admit that we are disposed to draw our ideas relative to the process of washing out the bladder from the natural state of the parts such as we see in anatomical plates. If, however, we select for our guidance the majority of pathological specimens illustrating the obstructive diseases of these parts we shall at once recognise the difficulties that beset us in our endeavour to wash out these, as we should do, for instance, in the case of a pint vessel. Take, for example, the hypertrophied bladders, with their various saccules, pouches, and dependencies, which are met with in connexion with advanced urethral stricture in younger adults and in persons of more advanced age who are the subjects of obstructive prostatic disease. In many of these the bladder is no more like the natural organ than the interior of a glass bowl resembles the section of a coarse bath sponge. The contents of the latter you could hardly ever hope to wash out effectually, though you may succeed in soaking them out. For washing out the bladder I almost invariably employ the hydrostatic tank which is now so generally used. It has, I believe, many advantages over syringes which I need not here stop to enumerate. When the bladder is much fasciculated it should be done in the recumbent position, with the object of opening out the mucous membrane as completely as possible without causing pain, the object being to reach irregularities on the surface which otherwise would escape contact with the lotion. When the bladder is much pouched it is a good plan, after filling it and before removing the fluid, to cause the patient to agitate his body from side to side so as to bring any dependencies there may be within reach of the antiseptic. In various ways such as these the process of washing out the bladder may be rendered more searching. For washing out in ordinary cases of bacterial urine I usually prefer boracic acid or the boroglyceride. Condy's fluid, sanitas, and iodoform may also be similarly employed. As I have already said, a solution of nitrate of silver in the proportion of $\frac{1}{2}$ of a grain to the ounce is often efficacious in rendering turbid urine clear after other things have failed. The sterilisation of the urine by internal medicines is an important adjunct in the treatment of the class of cases I am now referring to. It is quite unnecessary to draw attention to the many obvious ways in which the urine may thus be altered. The specific gravity, the reaction, and the composition of this secretion may to a large extent be artificially influenced, and in these directions the course of suppurative diseases of the urine passages may be importantly and favourably acted upon. And this brings me to speak of some of the means at our disposal for rendering the urine sterile so far as the most important factors in suppurative diseases are concerned. I have already referred to the sterilising influence that certain oils and essences, such as sandal wood and copaiba, are capable of exercising in this way. No less marked is the effect that boracic acid taken internally is capable of effecting in controlling bacterial life in the urine. Probably no better proof of this exists than in the results observed in connexion with operations on the urethra, such as the passing of catheters and in internal urethrotomy. The late Dr. Palmer, of Louisville, showed many years ago that by the use of boracic acid beforehand the development of urethral rigors and fever, under these circumstances, was rendered highly improbable, and this has since been amply proved to be the case. Similarly the use of quinine as a prophylactic against urine fever has been shown to be most efficacious; salol and other like drugs are also well recognised as urine sterilisers. Though boracic acid in doses of from ten to fifteen grains three or four times in the day is probably one of the most reliable sterilisers, it so often disagrees and causes dyspepsia as to interfere greatly with its use for the purpose. Some years ago my attention was called to a preparation called borocitrate of magnesia, which was described by Dr. Koehler, of Kosten,[1] in Germany, as a solvent for uric acid calculi, and gravel. In the communication referred to it is stated that it is prepared by dissolving boracite, a natural borate of magnesia which is found in Stassfurt, in citric acid. Whether it is actually a solvent for uric acid I am not prepared to say. Whilst testing it for this purpose I found that it frequently had a remarkable effect in sterilising and clearing up purulent urine and in favouring the expulsion of calculi and gravel by its flushing effects on the urine passages. For the latter purpose I have used it for the last ten years in conjunction with other means for preventing urine decomposition with considerable effect. I am in the habit of prescribing it in teaspoonful doses in half a tumbler or so of either warm or cold water two or three times in the day. It is extremely palatable to take and readily dissolves. We have other means for sterilising the urine by the mouth which I will mention, as one method or one drug is not universally applicable. There is a combination of the salicylate of soda with the benzoate of soda which possesses this power in a marked degree. I have frequently found urine which has been rendered opaque by the presence of pus and was swarming with bacteria rendered clear in the course of a few days after the use of this preparation. I usually prescribe fifteen grains of both of these salts to be taken together three times a day in an ounce of chloroform water. The hyposulphite of soda in half-drachm doses has also in some instances effected the same object. The principle of urine sterilisation may, however, be extended to other purulent or bacterial conditions of the urinary apparatus. I refer more particularly to some of those chronic suppurations resulting from the formation of abscesses in connexion with the prostate and prostatic urethra, where the pus was originally discharged, sometimes against gravity, into the latter canal. These are often most difficult to heal by reason of the absence of a free and dependent opening. Yet, on the other hand, the opening of the perineum and the incising of the prostate to secure free drainage of the discharge is a proceeding that cannot always be undertaken without some degree of risk in elderly subjects. The thorough cleansing of these deep parts by the use of antiseptics in the form of auto-irrigation, as described in the earlier part of this paper, will be found efficacious in many of these cases of chronic suppuration. In some instances of prostatic suppuration it is almost impossible to flush a sinus connected with this part so long as a catheter of any kind is retained in the bladder. On the other hand, this object may be often readily effected by the spontaneous contraction of a bladder more or less distended with fluid. In the sinuses, for instance, arising out of tuberculous prostatitis this method usually proves very effectual. Again, I have resorted to this way of flushing urinary fistulæ with some antiseptic fluid when the primary cause of them has been removed, as by gradual dilatation or after internal urethrotomy. Tortuous routes through the perineum may, by washing out through the medium of the bladder two or three times if necessary in the twenty-four hours, be thus healed. A few months ago I saw a middle-aged man with a tight stricture in the deep urethra which only admitted a No. 4 bougie. In addition there were two chronic perineal fistulæ—one opening in the left buttock and the other by the side of the scrotum, through which almost the whole of the urine was passed at the time of micturition. The patient's condition was an extremely distressing one, as it was impossible for him to pass urine with any degree of comfort except upon a water closet. I divided the stricture from within by Maisonneuve's urethrotome. A catheter was then tied in the bladder for forty-eight hours, and on its removal a No. 12 silk catheter à boule was introduced morning and evening. After washing out by means of this in the ordinary way the bladder was finally filled with about a pint of warm boracic lotion, which the patient was required to void naturally in the standing position on the catheter being withdrawn. The fluid escaped as in the ordinary act of micturition with this patient—namely, partly by the urethra and partly through the false routes. The proportion of the fluid coming through the

[1] Berliner Klinische Wochenschrift, Nov. 3rd, 1879.

urethra gradually increased, whilst that passing through the two fistulæ grew less daily, and in the course of ten days entirely ceased. This method of procedure I have found from repeated trials to importantly contribute in promoting the sound healing of these sinuses and the comfort and cleanliness of the patient.

I have thus endeavoured to bring under notice, as briefly as possible, some ways of influencing urine in connexion with certain specific and non-specific suppurations of the urinary organs, from the kidneys downwards.

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# ON SUDDEN OR UNEXPECTED DEATH FROM NATURAL CAUSES.

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SUDDEN death from natural causes, especially when it occurs under suspicious circumstances, is not infrequently the subject of medico-legal investigation. It is, therefore, necessary that medical practitioners should be familiar with the conditions under which sudden death is usually encountered, since the investigation of cases of this kind—often intrinsically difficult—may, in the absence of some previous knowledge of the subject, prove extremely perplexing.

Cases of sudden death from natural causes may be classified under three heads: (1) deaths which are due to the presence of a disease which is universally recognised as one liable to suddenly terminate fatally—for the most part such cases yield satisfactory post-mortem evidence as to the cause of death; (2) deaths due to the presence of a disease which, when fatal, does not usually end life abruptly, and which, consequently, is not generally regarded as a cause of sudden death—in such cases post-mortem examination frequently yields inferential rather than conclusive evidence as to the cause of death; and (3) deaths which do not result from any ascertainable disease, and as to which consequently no evidence whatever is afforded by post-mortem examination.

1. Roughly speaking, about one-half of the total number of cases of sudden death from natural causes in adults is, more or less, due to heart disease, which has existed for some time, and in which no furthur change is in progress at the time of death—such as valvular disease, angina, fatty heart, and sclerosis of the cardiac muscle from chronic myocarditis. In many cases concurrent lung or kidney disease complicates the statistics, such cases frequently being tabulated as deaths solely due to heart disease. Spontaneous rupture of the heart, mostly in men, may exceptionally occur; the left ventricle, often towards the front, is almost invariably the seat of the rupture. It is to be remembered that in traumatic rupture of the heart the right side, usually the auricle, suffers more frequently than the left in the proportion of about as 70 is to 54. Apoplexy and other cognate brain lesions rank second as natural causes of sudden death. It is to be noted that miliary aneurysms of the vessels of the brain, although most common in persons past middle life, occasionally occur in young people, even in children, and by bursting cause death from apoplexy. Chronic alcoholism, a potent factor among the causes of sudden death, is frequently associated with rapidly terminating heart and brain disease. Asphyxia, a not unfrequent cause, may be due to œdema of the glottis, membranous deposit in the trachea, pressure of a neoplasm on the trachea, spasm of the vocal cords, pulmonary embolism, air embolism rupture of a vessel or of an aneurysm into the air-passages, asthma, whooping-cough, pneumo- and hæmo-thorax, pleuritic effusion, and epilepsy. The rupture of a gastric or of an intestinal ulcer, of an aneurysm, of a varicose vein, of the surroundings of an ectopic gestation, the formation of a peri-uterine hæmatocele, may severally prove quickly fatal. Nephritis (uræmia and apoplexy), diabetes, exophthalmic goitre, and Addison's disease may also terminate with unexpected rapidity. Hæmorrhage into the pancreas occasionally causes sudden death, apparently from the impression produced on the contiguous nerve centres. It is most common in males over forty years of age, who may up to the occurrence of the hæmorrhage to all appearance be in perfect health. Obesity, the habitual use of alcohol, and the presence of heart disease appear in many of the cases to be predisposing causes. Koetschau,[1] however, observed hæmorrhage into the pancreas in a woman—an alcoholic—in her twenty-fourth year. Occasionally it occurs in spare people who are free from obvious disease and who are abstemious as regards alcohol. The sufferer may die within half an hour after the occurrence of the hæmorrhage or he may survive for twenty-four or even thirty-six hours. Draper[2] records five cases between the ages of twenty-six and fifty-five years, of which three were men and two women. Fitz[3] tabulated sixteen cases, of which eleven were males between thirty-one and seventy years of age, and five were females between twenty-six and forty-seven years. Sudden death has in several instances followed spontaneous rupture of an enlarged spleen, the result of tropical malarial influences, the individual immediately before rupture being to all intents and purposes quite well. Pellereaux[4] gives the history of thirteen cases of rupture of the enlarged spleen; in five the rupture was spontaneous, and in the remainder it was due to apparently inadequate causes, such as a simple fall in the street. It is to be borne in mind that when the spleen is thus enlarged a mere pat with the palm of the hand may determine rupture and consequent speedy death, which, in the absence of a knowledge of the experience of others, might readily be assumed to be the result of criminal violence.

It is to be remembered that some of the above-named diseases may exist without giving rise to any symptoms until the fatal moment arrives; this applies with special force to diseases which have a prolonged course, during which, as a rule, symptoms indicative of the disease declare themselves. Such a disease is gastric ulcer. I have seen more than one case in which, until the fatal rupture occurred, absolutely no symptoms were experienced, not even such as might have been attributed to simple dyspepsia; in one such instance a second ulcer was present in the walls of the stomach in addition to the one that ruptured and caused death, and yet until perforation occurred the patient never felt in the stomach any abnormal sensation whatever. As regards some of these diseases, such as spasm of the vocal cords, whooping-cough, and asthma, the most careful post-mortem examination may fail to determine the cause of death. Epilepsy may or may not leave characteristic appearances, such as recent injury to the tongue, ecchymoses of the conjunctiva, the face, the neck, and occasionally of the trunk, together with froth (possibly blood-stained) on the lips. Lesser[5] examined seventeen cases of death from epilepsy and found that the tongue had been bitten in eight, and that in six conjunctival or subcutaneous hæmorrhages on the face, breast, or trunk were present.

2. *Certain diseases which, when fatal, do not usually end suddenly may exceptionally do so.*—Such are abscesses and tumours of the brain, meningitis, diphtheria, tracheitis, enlarged thyroid, pulmonary apoplexy, pneumonia, phthisis, pneumo-thorax, pleurisy, ulcerative endocarditis, old adherent pericardium, pericarditis, volvulus, and other causes of acute intestinal obstruction, peritonitis, gall-stone colic, rupture of an echinococcus in the liver or elsewhere, Bright's disease, influenza, gout, and acute rheumatism. When fully developed several of these diseases are usually inhibitive of locomotion, but they occasionally occur in a latent or an ambulatory form and terminate suddenly without their presence being even suspected; it is no uncommon event for a man suffering from such a disease to walk unaided into the out-patient department of a hospital and even to die suddenly ere treatment can be adopted. Meningitis may be latent and may lead to sudden death: even pus may be present without giving rise to any symptoms until immediately before death. Ollivier[6] records the case of a man who was taken ill while at work. He went to bed and died in four hours, and at the necropsy the cause of death was found to be purulent meningitis. Death may suddenly attack a person (especially in childhood) who has middle-ear disease, death

[1] Centralblatt für allgemeine Pathologie, 1893.
[2] Boston Medical and Surgical Journal, 1886.
[3] Medical News, 1889.
[4] Annales d'Hygiène, 1882.
[5] Vierteljahrsschrift für gerichtliche Medicin, 1888.
[6] Archives Générales de Médecine, 1838.

being due to septic meningitis or to the formation of an abscess in the sphenoidal lobe or in the cerebellum. Slow-growing cerebral or cerebellar tumours not unfrequently cause unexpected and rapid death. Rapidly developing œdema of the larynx may exceptionally cause sudden death in adults as well as in children. A man, aged twenty-eight years, who was under treatment for an ordinary sore-throat, one day suddenly grasped his throat with his hands, ran round the room, and expired in two or three minutes. At the necropsy œdema of the larynx, along with signs of death from asphyxia, were found. The advance of an acute disease towards a fatal issue may be extremely rapid. Strassmann[7] examined the bodies of two young women who went to bed not feeling quite well, although they had done their work during the day; the following morning they were found dead in bed, and the necropsy showed that death was due to diphtheritic deposit which had travelled rapidly down the bronchi. Diphtheria may cause unexpected death during the stage of convalescence. Ransom[8] saw a girl, aged fourteen years, who was rapidly recovering from the effects of diphtheria when she died quite suddenly on the eighteenth day. It is extremely important to remember that diphtheritic paralysis, which may be suddenly fatal from heart failure, is by no means uncommon after *a latent attack of diphtheria that has escaped notice;* this holds good when the disease attacks other parts than the fauces. Guthrie[9] saw a girl, aged two years, with diphtheritic vulvitis, who died very suddenly from cardiac failure. In addition to the neuritis, which is liable to affect the innervation of the heart, a clot may form in the right ventricle after an attack of diphtheria and may cause sudden death. When an enlarged thyroid causes sudden death the gland is usually very considerably hypertrophied; sometimes hæmorrhage takes place into a cyst and determines speedy suffocation from increase of pressure which was previously all but sufficient to provoke fatal dyspnœa.

In addition to ordinary pathological conditions which may lead to rapid occlusion of the air-passages, and consequently to sudden death, one or two exceptional causes may be mentioned. Vedi[10] records the case of a man in the first stage of general paralysis who was getting out of bed, when he cried out that he felt ill. He at once became unconscious and died immediately. At the necropsy a round worm (ascaris lumbricoides) six inches long was found in the left bronchus, the characteristic signs of death from asphyxia being present. In a few instances the unsuspected presence of a laryngeal polypus has caused sudden asphyxial death. In young children and in profoundly intoxicated individuals regurgitation of the contents of the stomach into the mouth, with subsequent aspiration of a portion of them into the air passages, is a not unfrequent cause of sudden death; this accident, however, may happen to adults who are not intoxicated. Coutagne[11] relates the case of a woman, aged forty-four years, who whilst walking in the street felt unwell and went into a druggist's shop. She vomited on entering, became cyanosed, and straightway died. A necropsy revealed an enormously dilated stomach containing more than two quarts of semi-fluid food, some of which had found its way into the mouth and nasal passages; the bronchi were completely obstructed with it. Corvisart one evening paid a surprise visit to his clinic. The concierge, who had been dining too well, felt that he was caught, and the emotion caused him to feel sick; he made a violent effort to avoid vomiting and fell down dead. At the necropsy the trachea and bronchi were found full of partially digested food. It is noteworthy that in some cases of death thus caused, especially when occurring in elderly people, death takes place with exceeding rapidity and appears to be due to syncope, the post-mortem signs of death from asphyxia being entirely absent. Pleurisy and old pleuritic adhesions may cause sudden death; pleurisy with effusion may exist (without materially interfering with the breathing) in a man who is going about as usual, who, after slight exertion or trifling violence, or even in the absence of both, may die instantaneously. Brouardel[12] mentions the case of a police officer who, on receiving a blow on the chest from the fist of a man whom he was arresting, fell down dead. At the necropsy the right pleural cavity was found full of fluid, and no other indications as to the cause of death were present. In children the existence of pleuritic effusion, apart from violence in any form, is liable to cause sudden death; in adults also, especially on change of posture—as on getting up after some days' confinement to bed—there is in pleuritic effusion great risk of immediate death; the passage of an aspirating-needle into the pleural cavity has occasioned death either immediately or after an interval of several hours. Latent pneumonia is not unfrequently suddenly fatal in old people, the individual apparently being in his usual health up to the time of his death; in such cases nothing is discovered on post-mortem examination beyond the anatomical changes usually produced by the disease when it has run its ordinary course. Latent pneumonia may also be suddenly fatal in the young. Ollivier[13] records the case of a young woman, aged twenty-two years, who did not feel well, but she dressed herself to go out, and shortly after was found dead; the necropsy revealed double pleuro-pneumonia as the cause of death. Death from latent pneumonia may be exceedingly sudden. Strassmann[14] records the case of a man, aged fifty years, who called at a registry office in order to obtain employment; whilst the clerk was referring to the register the applicant fell down dead, and at the necropsy the whole of the upper lobe of the right lung was found to be in a state of grey hepatisation. Associated with intoxication pneumonia may cause sudden death in the young as well as in the aged. A man, aged twenty-four years, was locked up for being drunk and incapable; the next morning he was found dead in the cell, and the necropsy revealed complete consolidation of the left lung with commencing mischief at the base of the right.

In some diseases which occasionally terminate suddenly the issue may be determined by an overloaded stomach. Sturges and Wilkins[15] record the case of a boy, aged seven years, apparently in good health, who ate a hearty dinner and immediately after played cricket for an hour and a half. He then ran to school, suddenly fell down insensible, and died forthwith. At the necropsy signs of recent pericarditis, with soft adhesions, were discovered, all the organs except the heart being healthy. Under the strain of violent exercise the overloaded stomach impeded the diseased heart to such an extent as to suddenly arrest its action. In a large number of the cases in which death suddenly occurs the victim was undergoing some exceptional form of physical exertion at the time, such as playing a fatiguing game, hastening to catch a train, mounting stairs, defecating, or was engaged in sexual intercourse. Sudden death from acute intestinal obstruction is well illustrated by a case recorded by Rake.[16] A strong man, aged fifty years, when gardening, was suddenly attacked with vomiting and pain in the abdomen. He died in two hours, and at the necropsy a volvulus of the transverse colon was found. Possibly death was due to disturbance of the solar plexus. Rupture of the gall-bladder is an unusual cause of sudden death, but instances of it are on record. In one such a man suddenly experienced a severe pain in the abdomen, he became collapsed and quickly died; on post-mortem examination the gall-bladder was found to be ruptured, and from it a number of gall-stones had escaped into the peritoneal cavity. Bright's disease, both acute and chronic, occasionally causes sudden death without any indications of uræmia or of apoplexy. Debove and Capitan[17] relate two cases of interstitial nephritis, the patients enjoying good health up to the moment of death, which occurred suddenly from syncope, and which was not preceded by any morbid phenomena; no trace of valvular lesion was found after death in either case, but there was some sclerosis of the heart muscle. In advanced contracting kidney with concurrent hypertrophy of the left ventricle sudden death may take place without any post-mortem indications as to the ultimate cause of death either in the brain or elsewhere. It is to be borne in mind that patients with gouty kidney and high arterial tension may die suddenly from rupture of a vessel elsewhere than in the head. I have seen two such cases in which a cardiac vessel ruptured, death occurring very rapidly from accumulation of blood in the pericardium.

Rapid death from the rupture of a typhoid ulcer is, unfortunately, a too common occurrence in the case of patients under treatment for that disease; occasionally it happens in a case of the ambulatory type. A strong man

[7] Lehrbuch der gerichtlichen Medicin, 1895.
[8] Brit. Med. Jour., Dec. 24th, 1887.
[9] THE LANCET, Oct., 1894.
[10] Gazette des Hôpitaux, 1870.
[11] Annales d'Hygiène, 1893.
[12] La Mort et la Mort Subite, 1896.
[13] Cretin, Thèse, 1845.
[14] Loc. cit.
[15] THE LANCET, July 25th, 1885.
[16] THE LANCET, April 20th, 1889.
[17] La France Médicale, 1880.

who was returning home from his day's work in the evening suddenly died; the cause of death was found to be rupture of an enteric ulcer of the ileum. Sudden death from enterica, however, is not always caused by rupture of an intestinal ulcer; in exceptional cases death appears to be due to rapid or instantaneous heart failure, occurring most frequently about the beginning of the third week. Dieulafoy[18] found that the fatal period most frequently occurs from the seventeenth to the twenty-fourth day of the disease, the largest number of deaths occurring on the nineteenth, twentieth, and twenty-first days, and that sudden death is not unfrequent in mild cases; he instances the case of a young woman, aged eighteen years, who, on the seventeenth day of the fever, whilst conversing with a nurse, was seized with convulsive movements of the face, became pallid, and died immediately. In such cases microscopic examination of the heart muscle does not show that it has undergone fatty or other changes. Marvaud[19] describes two forms of unexpected death from typhoid fever—one from syncope, in which death is instantaneous; the other from embolism of the pulmonary artery, in which, though sudden, death is not instantaneous. He records several instances, the earliest occurring on the thirteenth day of the fever, and the latest, which is distinctly exceptional, on the thirty-ninth day. Statistics collected by Dewèvre[20] indicate that sudden death from typhoid fever reaches its maximum between the ages of twenty and twenty-five years, and that it is commoner in men than in women. In children sudden death may occur in the early stage of typhoid fever, just when the intestinal follicles are beginning to swell.

Instances have occurred of sudden death due to heart-failure following an attack of influenza; post mortem, the heart has been found soft and flabby. Occasionally sudden death occurs in elderly people afflicted with gout, and also in those who are excessively corpulent, in some instances without affording any post-mortem evidence as to the actual cause of death. Kisch[21] records nineteen cases of sudden death in obese persons—twelve from acute œdema of the lungs, six from cerebral hæmorrhage, and one from rupture of the heart. Seven were under fifty years of age, and eleven were above fifty. Fifteen were men and four were women.

Acute rheumatism may end in unexpected and sudden death. Priestley[22] states that a woman, aged twenty-seven years, whilst in the early stage of rheumatic fever of a mild type without heart complication, suddenly lost the pain in the joints, went to sleep, and soon after was found comatose and she died. Bristowe[23] relates two cases of acute rheumatism in young women which ended suddenly in fatal syncope. Allbutt[24] records a case in which rapid and unexpected death during an attack of acute rheumatism was due to œdema of the glottis.

3. In most of the cases in which death suddenly takes place without any cause being revealed on post-mortem examination, it is determined by some external causal influence either acting directly on the nervous system or mediately on it by means of a very slight and apparently totally inadequate physical impact; therefore, in relation to this group, the term "death from natural causes" includes death arising from external and possibly abnormal influences, which, however, cannot be regarded as being essentially lethal. Several instances are on record in which death suddenly occurred to an individual who was in a state of extreme mental excitement without the intervention of any physical cause whatever. Templeman[25] examined the body of a man who, ten minutes after a violent scene with a drunken son, no blows being struck on either side, was found dead. At the necropsy the cardiac valves and the coronary arteries were found to be free from disease, and the muscular substance of the heart was free from fatty changes, being to all appearances perfectly healthy; no lesion was found that would account for death. Maschka[26] relates that two women were in the midst of a furious verbal encounter when one of them seized a broom and made as though she would strike the other; without any blow being delivered the woman who was menaced fell down dead. No abnormal condition was found at the necropsy. Marchal[27] received a military prisoner under his care in the hospital; the man had a profound dread of being sent back to prison, and as the medical officer was reading the memorandum of his previous behaviour the prisoner was observed to be greatly perturbed and suddenly fell back dead. At the necropsy no lesion except engorgement of the cerebral meninges was found to account for death. The inferential diagnosis of "heart disease," which is so satisfying to the public and also to many medical practitioners would have been accepted, in the absence of post-mortem examination, as being entirely fitted to these cases; a distinction is to be drawn, however, between death due to disease of the heart and death due to profound perturbation of the nerve centres causing inhibition of a heart in which there is no trace of disease. When searching after death for evidence of disease in a suspected heart it is to be noted that absence of atheroma or of narrowing of the mouths of the coronary arteries is not sufficient to exclude angina as a cause of death; it is necessary to lay open the entire length of the coronary arteries, since the seat of obstruction may be some distance down the artery, the orifice itself being quite patent. In the three cases just narrated there was absolutely no physical injury or impact even of the most trivial kind; death appears to have been due to cardiac inhibition caused by intense mental emotion. Such cases serve to explain those in which death follows a slight injury or physical impact that in itself is a totally inadequate cause of death, but which, when coincident with a climax of expectancy occurring during a period of acute apprehension or of extreme terror, may suddenly and completely inhibit, or in some instances profoundly depress, the heart's action; in the latter case death may not take place until several hours after the occurrence of the causal event, as in the following instance related by Beaunis.[28] A man whilst shooting wild beasts was pounced on by a panther. Some Arabs who were present immediately shot the animal, and on examining the victim found that the panther's claws had only inflicted on the shoulder a few pricks so slight that they scarcely bled; the man remained in a state of profound terror and died on the following day. At the necropsy no lesion was found to account for death; all the organs were healthy and the claw-marks were quite superficial. Another and still more remarkable case which occurred in India is recorded by Francis.[29] A man was roused out of sleep by feeling something creeping over his naked legs. Having an innate and intense dread of reptiles, and imagining that it was a cobra, he became collapsed and died in six hours, although before death took place it was discovered that a harmless lizard had been the cause of his fright; the patient, however, was too profoundly collapsed to recover. The immediately lethal effect literally of a mere touch is well illustrated by an instance which occurred to Dupuytren, who, when about to perform lithotomy on a boy, demonstrated to his students the line of the projected incision by drawing his finger-nail along the skin of the perineum; the boy immediately fell back dead. Nussbaum[30] states that as a surgeon examined with a sound the bladder of a robust peasant woman she closed her eyes and died forthwith. Cazenave[31] relates that a man, aged sixty years, was about to undergo lithotomy, and when the surgeon introduced the sound into the urethra the patient suddenly turned pale, lost consciousness, and died in ten minutes. A woman desired to be placed under the influence of chloroform before having a tooth drawn. The dentist not having any chloroform, and seeing that the tooth was quite loose, thought he might deceive her by holding a cupping-lamp to her nose; he then proceeded to open her mouth, when he found that she was dead. Bonvalot[32] relates the case of a young woman on whom an attempt at procuring criminal abortion was about to be made; the cannula of a ball-syringe was introduced into the os uteri, when the patient fell back before any of the fluid had been injected, and died in a few minutes. Many cases of sudden death during the actual administration of intra-uterine injections have been recorded. On more than one occasion death has suddenly occurred at the moment when a simple digital vaginal examination was being made. Brouardel[33] states that when he was a hospital "interne" one of the physicians digitally examined [an

[18] Gazette des Hôpitaux, 1877.
[19] Archives Générales de Médecine, 1880.
[20] Ibid.
[21] Berliner klinische Wochenschrift, 1886.
[22] THE LANCET, Oct. 1st, 1870.
[23] THE LANCET, Jan. 17th, 1880.
[24] Medical Times, 1868.
[25] Edinburgh Medical Journal, 1893.
[26] Handbuch der gerichtlichen Medicin, 1881.
[27] Bonin: De la Mort Subite, 1861.
[28] Vincent: Des Causes de la Mort Prompte, 1878.
[29] Medical Press and Circular, 1823.
[30] Ueber Unglücke in der Chirurgie.
[31] Gazette des Hôpitaux, 1866.
[32] Annales d'Hygiène, 1892.
[33] Loc. cit.

in-patient; she died immediately before anything could be done to help her. Brouardel further states that he knows of two other cases in which women died suddenly in the consulting rooms of medical men whilst an ordinary vaginal examination with the finger was being made. Sudden death, apparently from cardiac inhibition, has been observed to occur when certain parts of the body are abruptly handled or compressed; these are the nasal passages, the larynx, the epigastrium, the urethra, the bladder, and the genital organs.

Young children are especially liable to sudden death in a number of ways which do not obtain with adults. Infants die very readily from suffocation. An infant has been innocently suffocated whilst being held by the mother to her breast; the child's mouth and nostrils were so closely covered by the yielding mamma as to cause fatal asphyxia without anything amiss being perceived until it was too late. Convulsions due to reflex irritation are a common cause of infantile death. An infant who "dies in a fit" thus produced dies from asphyxia occasioned either by tonic spasm of the respiratory muscles or of the glottis, or of both. The post-mortem indications of death from asphyxia thus caused cannot be distinguished from those found after death due to criminal or accidental suffocation (overlaying). The sub-pleural ecchymoses held to be indicative of death from suffocation are due to increased arterial blood pressure and are likely to be produced by convulsions. They may, however, be absent after death from convulsions. Spasm of the glottis, as in laryngismus stridulus or in whooping-cough, is another way in which infants are subjected to sudden asphyxial death. A like observation applies to œdema of the glottis. Hyperplasia of the thymus gland is occasionally observed post mortem and has been regarded as a cause of sudden death in infants. Whether death is due to compression of the trachea or bronchi by the enlarged thymus or to laryngeal spasm is a disputed point. As previously stated, young children are easily suffocated by food that has been taken into the mouth or regurgitated from the stomach finding its way into the air passages. Scarlet fever exceptionally ends fatally in eight or ten hours; convulsions, coma, rapid respiration, vomiting, and sometimes hyperpyrexia—110° to 115° F.—are among the symptoms. Finally, sudden death may occur to young children without any ascertainable cause. Hale White[24] mentions three cases in which death suddenly took place in children who were in hospital. In none of them was any coarse lesion found after death.

Manchester.

[24] THE LANCET, Feb. 25th, 1882.

# THE CARE AND MANAGEMENT OF EPILEPTICS IN COLONIES.

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APART from the actual necessity of lessening the severity or diminishing the frequency of epileptic fits by the administration of drugs, other important measures in the general treatment of epilepsy ought to receive attention, and more especially the care, education, and management of sane epileptics.

## I.—CARE AND EDUCATION OF EPILEPTIC CHILDREN.

In the first place the care and education of epileptic children will be considered. For this purpose it is essential to separate those which are sane from the imbecile or idiotic. For the management of these provision has already been made throughout the country in the idiot asylums. The experience of the authorities at such institutions is that much benefit may accrue to epileptic children of this kind where, under careful supervision, regular habits as to food, exercise, and judicious instruction and employment, they improve sometimes to a remarkable extent. Such cases amongst the wealthier classes of society may receive similar attention and instruction in private institutions and homes. But it is more particularly the care and education of the sane epileptic children to which attention is at present being directed. It is difficult to obtain any reliable statistics upon the actual number of such cases, but a report of the Charity Organisation Society throws some light upon this subject. Of 372 children exempted from attendance at the elementary schools in London in 1891, 61 were stated to be epileptic.[1] Of 498,300 children under instruction in the London School Board in 1895, 259 were epileptic, and 226 known epileptics were not under instruction, or a total of 485 sane epileptic children known to the London School Board authorities in that year.[2] These figures probably understate the actual number of sane epileptic children in the metropolis. Reckoning the number of epileptics to the total population as 1·5 per 1000 (vide later) this would only give 0·97 epileptics per 1000 of the general school population, a figure which is too low. The reason of this is well known, for the causes are many and obvious why epileptic children are kept at home. Mainly as a result of this the education of the epileptic child is disregarded; as he grows older, owing to inability to obtain a livelihood, he becomes a burden to his relatives, added to which is the natural tendency towards blunting of the intellect which epilepsy produces, and he eventually drifts either into an asylum or the workhouse.

It is therefore an important point to inquire whether any provision can be made for the education and instruction of these cases. And, firstly, Is it right to educate epileptics along with other children? Most medical authorities are agreed that no harm results from mixing together at school the epileptic and non-epileptic. The fact exists, however, and it has an important bearing upon this question from the schoolmaster's point of view, that the presence of an epileptic has a disturbing influence upon his schoolfellows, as well as from the fact that by the nature of the disease the epileptic child requires special supervision. Although many epileptic children are bright and ready to acquire knowledge, the minds of a large number have, even at an early age, suffered from the blunting influence of their disease. Under such circumstances it is, on the whole, better that they should be educated apart from healthy children. It will be found, however, impossible to carry this out in all instances, partly because in some cases epilepsy exists unrecognised, and partly because the existence of this disease is wilfully hidden by the parents. It is, however, the education of obviously epileptic children that requires special attention. Many are of opinion that the epileptic child is placed at as great a disadvantage, educationally, as is the blind or the deaf-mute. So far, however, the legislature has made no recognition of this, nor has private generosity supplemented the deficiency. It would seem, however, as if the whole question of education in this and closely-related conditions is soon to receive attention, as a Departmental committee has recently been appointed to inquire into, and report upon, the education of feeble-minded children, not under the charge of guardians and not idiots or imbeciles, and of epileptic children. How this is likely to be carried out will no doubt form the subject of a report; but from the medical aspect the following suggestions may be made: (*a*) That where possible, and when there is no blunting of the intellect, or when the fits only occur at night or at long intervals, epileptics may be educated along with healthy children; (*b*) if there is no marked impairment of intellect, but the fits are frequent or severe, or special supervision is necessary, or from other like reasons, provision should be made for the education of such children separately from others; and (*c*) that if along with epilepsy there is feeble-mindedness, but without actual idiocy or imbecility, provision for the suitable education of such cases should be made, and preferably in colonies, such as will be presently described.[3]

## II.—THE SANE ADULT EPILEPTIC

Having drawn attention briefly to the education of epileptic children it is now intended to discuss more fully the management of the sane adult epileptic. Concerning the general prevalency of epilepsy in its relation to the total population there is difficulty, from many causes, in arriving at satisfactory statistical results. First, no census for this purpose has been taken in the United Kingdom, while those taken abroad are only partial; and, secondly, epilepsy

[1] Report of the Charity Organisation Society, the Epileptic and Crippled, 1893.

[2] Communicated by the secretary of the National Society for the Employment of Epileptics.

[3] For a series of suggestions on this matter the reader is referred to the Report of the Charity Organisation Society upon the Epileptic and Crippled, 1893.

is so closely related in the early years of life to idiocy and imbecility, and in the later years to insanity, that it is almost impossible to satisfactorily separate them for statistical purposes. But a few facts may be given upon the estimated number of adult epileptics. In Germany the estimate is given as 1 per 1000,[4] in New York State as 2 per 1000 (Peterson),[5] and in the Canton Aargau in Switzerland at 2·5 per 1000 (Bircher) of total population.[6] In Italy, of 10,000 young men who presented themselves for military duties 11·5 were rejected owing to epilepsy (Morselli),[7] giving a proportion of just over 1 per 1000. It would not, therefore, be placing the number too high if it is stated that the probable proportion of adult epileptics to the total population is from 1 to 1·5 per mille in the European countries in which this subject has been looked into. A census has, however, been taken upon this subject in certain of the Australasian colonies. For instance, in the Victorian Year-book for 1894, p. 398, a table is given showing the relative proportion of epileptics to the total population. The number of epileptics was found to vary between 1 in every 2322 of population in South Australia, to 1 in every 3964 in Tasmania. The average number may be given as that found in the colony of Victoria, where the proportion of epileptics was stated to be 3·68 per 10,000, or 1 epileptic in every 2715 of population. This is found to be considerably below the estimate of the European countries and America; but indications have been already given of the difficulty in ascertaining the true facts about epilepsy, so that it is not improbable that the above numbers really under-estimate the total proportion of epileptics in the Australasian colonies.

Many epileptics are perfectly able to conduct business and to carry on work of an intellectual or mechanical nature with credit and without any harmful result. On the other hand, however, owing to the impairment of the mental faculties to which epilepsy gives rise, or from inability to obtain regular employment owing to defective training, or from the sudden onset of fits and the subsequent incapacity, many epileptics are unable to make a living. An epileptic artisan is absolutely debarred from many trades and occupations, such as building, engineering, &c., while in other cases the services of an epileptic workman are not desired by an employer of labour unless he be of an exceptionally indulgent and charitable nature. Hence in all classes of society the epileptic whose fits debar him from occupation becomes a burden to his relatives; while amongst the poorer classes he swells the ranks of the unemployed, and eventually ends in the workhouse. For instance, in a return made in 1893 by the Local Government Board for the National Society for the Employment of Epileptics[8] it was stated that in the Poor-law Institutions of London, specially examined, there were 34,889 inmates, of whom 604 were sane epileptics. Taking the ratio of epileptics to the general population as 1 per 1000, this would give about 3000 sane adult epileptics in the metropolitan area. As pointed out in the paper above mentioned, this makes one in every five of the total epileptic population of London an inmate of a workhouse, and it also shows that of the pauper inmates of the workhouse one in every sixty is an epileptic. The question, therefore, at the present time which is exercising the minds, not only of medical men, but of those who direct the organisation of Charity and of the Poor-law, is—Is there any way by which such individuals may be able to support themselves under care and supervision? and the answer is being given in this country and in America by the formation of colonies for epileptics. In Germany the formation of such colonies has already met with exceptional success. At Bielefeld, for example, 1100 epileptics are employed in various forms of field and garden work. They are maintained in houses containing from 14 to 15 up to as many as 50 individuals. But in addition to being an institution in which sane epileptics may find useful employment, it is also "a sanatorium, an institution for the education and instruction of epileptic children, and an asylum for imbecile epileptics."[9] The results of this method of treatment and general management may be obtained from a perusal of the reports of the colonies, not only at Bielefeld, but also at Zarich, Potsdam, and Stettin, where there are similar institutions. An average gives a percentage of about six "recoveries," and 30 or 40 per cent. may be stated to have so much improved as to be fit to leave the institution. A certain number of relapses, however, occur, for during one year (1889) of 212 admissions 30 were admitted for the second time. From the consideration of these reports it is evident that in the management of epileptics in colonies provision therefore has to be made, not only for the schooling of epileptic children and for the employment of epileptic adults, but also for those who, from the very nature of their disease, in the course of time become feeble-minded and demented.

In the Craig Colony for Epileptics, recently established in New York State, provision has been made for the education of epileptic children as well as for the employment of adult epileptics. This institution, which has been at work for only a short time, is fulfilling its function in a most satisfactory way. From the third annual report, recently issued, I gather that 145 adult epileptics are employed in the various forms of garden and farm work, and that there are twenty-three children in the school. The general effect of the colony life upon the epileptics is stated to bring about a marked improvement both physically and also as regards the number and severity of the fits. In England until two years ago there were only two small "homes" for epileptics—one at Maghull, founded in 1889 for the reception of both males and females, and Lady Meath's Home for epileptic girls.

In 1894 the National Society for the Employment of Epileptics opened the first house at the Epileptic Colony at Chalfont St. Peter, Buckinghamshire, and it is in connexion with the results obtained at this institution to which attention is especially drawn. In the management of the patients at this colony the same principles are carried out which have conduced to the success of similar institutions elsewhere. These may be briefly stated to be: (*a*) removal of the epileptic from the towns to the country; (*b*) the regular employment in the garden, fields, orchard, workshops, &c., of the colonists under the supervision of capable persons; (*c*) the maintenance of a well-ordered and regular mode of life, with the avoidance of excitement and abstinence from alcoholic liquors; and (*d*) abundance of good nourishment of a simple nature. Living under such conditions it has been found that the epileptic requires only a minimal amount of medicinal treatment, and it is the custom to give each colonist thirty grains of bromide of potassium at bedtime.

The present accommodation consists of two houses, each containing 18 male epileptics. A house to accommodate 24 female epileptics is ready for occupation, while the building of another house for men is progressing. It is also expected that in a short time two houses for children (male and female), with the necessary school accommodation, will be erected. Since the opening of the colony in August, 1894, 62 male epileptics have been under observation for periods of varying duration. Of these, one has left the colony after a residence of two years apparently cured, or at all events so far improved as to be able to resume work. One died from symptoms indicating sudden cardiac failure, one has been sent to an asylum, nine left the colony at their own wish, while eighteen were discharged for various reasons. Up to the present time payment is made on behalf of the colonist either by his relatives or by the boards of guardians interested in individual cases. Epileptics whose relatives are in a position to pay higher annual sums have not so far been admitted owing to the want of suitable accommodation, but as the necessary funds are now forthcoming it is proposed to erect a house for this class of patient. I may now consider briefly the effect of such general care and treatment upon the individual epileptics, and for this purpose look at it from the following points of view.

1. *Frequency of the fits.*—In the majority a marked diminution in the number of the attacks is observed after admission to the colony. This is probably due directly to the removal of the epileptic from bad hygienic surroundings in the town to a pure country air, with abundance of simple diet and a well-regulated *régime*. In a minority there is a temporary increase in the number of fits, which may be due to the fact that previously to admission larger doses of bromide have been taken, this being entirely withdrawn except for a small dose at bedtime. In both instances after a short time the average number of fits is struck, and this is found to vary largely in different cases. The greater number of fits occur during the day, and by far the commonest time is during the first hour after rising in the morning. The attendants have found that fits are rare on

[4] Report of the Charity Organisation Society, 1893, op. cit.
[5] Ibid. [6] Ibid.
[7] Article on Epilepsy in Eulenberg's Encyclopædia, vol. vii., 1895.
[8] Vide Sane Pauper Epileptics, by E. Montefiore Micholls and G. Penn Gaskell.
[9] The Report of the Charity Organisation Society, supra cit.

going to bed, and that as a rule the patients are much better and brighter during the evening. A point of some interest is that more fits occur in the house than outside in the garden or fields, and this apart from greater difficulty in registering the number outside; while there seems to be a general impression that more fits occur during warm and close weather than during the cold.

2. *Severity of the fits.*—Here, again, there is a majority in which an amelioration in the severity of the attacks occurs, while in a minority no material alteration is noticed, and in some a decided tendency towards increase in severity. Upon this point, however, it is more difficult to obtain accurate observations. In some of the colonists severe fits gave place to attacks of *petit mal*; in others, attacks of an average nature became more severe.

3. *General mental state.*—In quite a minority there has been a progressive tendency towards dementia. In some it appeared to be the natural course of the disease. In others it was owing to the frequency and severity of the fits, or of both combined. In the greater number no such mental deterioration has been observed. On the whole, the mental state of the colonists, considering the duration of the disease, is good. Some of them are capable of work requiring individual alertness and tact, while most are able to do good work under supervision. But the greatest benefit which this system of treatment is capable of producing lies in the general moral effect which it has upon the individuals. These persons amongst the poorer classes are in many instances regarded as "family lepers," the outcasts of the community, between whom and their relatives there is little sympathy. In a colony each epileptic is readily brought to see that he is as useful a person as his more highly favoured brother if placed under proper conditions. Here interest is taken in his work, in his mode of life, and in his amusements, with the natural result that he takes greater interest in himself and obtains a feeling of higher self-respect.

4. *General physical state.*—It is under this heading that the greatest improvement has been noticed. Without exception the general health of each colonist has materially improved. They all put on weight, and this, notwithstanding the fact that they may be subject to frequent and even severe fits.

But it may be asked, What kind of work has been found most conducive to good health among the epileptics? It may be stated that all forms of work appertaining to the fields or the garden have been found beneficial, while good work is also done in the carpenter's shop by picked men. The farm of 135 acres is worked by the colonists with the addition of a few farm labourers and overseers (bailiff and gardener). In the summer months matches are arranged between the cricket club of the colony and the various local clubs of the district, but football is not allowed. Contrary to the experience of the authorities of the Craig Colony for Epileptics, it has been found that the granting of holidays to the colonists at intervals is of value. Certain important precautions are taken before leave is given, but on the whole such a change has been of material service to the individual. It is scarcely necessary to state that the colonists have been carefully selected by the medical committee from a large number of applicants. The points to which attention is especially directed are: Has the epileptic been unable to obtain employment? or has he been discharged from one or more situations by reason of the fits? Is he capable of work under direction? and a point of great importance lies in a statement upon the absolute freedom of individuals from attacks of violence, mania, or other symptoms indicating insanity.

By way of conclusion, a summary of the evidence collected by the Charity Organisation Society from the results of this method of treating epileptics in the colonies on the Continent may be quoted [10]: "Any attempt to provide for the treatment of epilepsy, if large numbers have to be considered, should combine school-teaching with medical treatment and supervision. For young persons and adults regular but not too laborious employment is necessary. For all alike, for the furtherance of self-control, and for healthy enjoyment a well-ordered home life is required, and these the colony system provides. Medically, if the serious nature of the disease be taken into account, the colony system produces the best results. For the worst cases, and to provide against the constant ailments of many of the colonists, hospital accommodation is necessary. This system will have to furnish accommodation suitable for patients of all classes, the highest who may wish to have the best fare and rooms, and the lowest. The growth of the colony system is remarkable. It meets a very widely-felt need. This need is not met in England, for it cannot be said that to provide a residence in a workhouse is sufficient, and that is all that is now done."

I have endeavoured to show in this article that the need has now been met in this country, and that this form of treatment is being successfully carried out at the epileptic Colony, Chalfont, Bucks.

Queen Anne-street, W.

[10] Report on the Epileptic and Crippled, 1893.

# ON THE DIAGNOSIS OF CERTAIN SO-CALLED RHEUMATIC DISEASES FROM EACH OTHER AND FROM RHEUMATISM.

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THE distinction between the group of affections due to rheumatism and those of different origin is a much discussed and difficult subject. The limits of this group have of late been extended in some directions and diminished in others. Reasons have been given for including in it the most unlike diseases, such as chorea and erythema nodosum, while others which were formerly included as typical instances have been removed and shown to be due to recognised microbial infections or pyæmia. This has been especially the case with most forms of scarlatinal rheumatism, of malignant endocarditis, and gonorrhœal arthritis. Many uterine and ophthalmic affections have been also excluded. On the one hand, arthritic symptoms have been largely discredited as a test; and, on the other hand, the type of the disease as seen in children does not seem more trustworthy, since, for example, endocarditis has been of late shown to arise from the poison of such different complaints as phthisis, gonorrhœa, and even typhoid fever. The fact is, as Dr. S. Mackenzie remarks, we have no single criterion of rheumatism. We are ignorant of its causes, whether it is at first a local disease, and if so where it arises in the body. We have only a bundle of symptoms, almost any one or any group of which may be present in other complaints. It is of little use to say that various causes produce identical symptoms when they affect the same organ, such as a joint. If there is no test for rheumatism we shall want to know whether the other causes producing similar symptoms have any distinguishing marks. It seems the most promising line of inquiry, then, to focus clearly our ideas of those affections which mimic rheumatism and produce like phenomena. Some of them may be capable of exact definition, and we may then by a process of exclusion arrive at a true conception of rheumatism itself. This, indeed, has been the most fruitful method in the past. Leaving on one side for the present chorea and some other children of doubtful paternity, there are a large number of skin, joint, and pyæmic affections to be considered, such as Osler's erythema exudativum, Quincke's œdema, Henoch's purpura, erythema nodosum, gonorrhœal, scarlatinal, diphtheritic, influenzal, and other forms of pyæmic arthritis, purpura hæmorrhagica, and hæmophilia. Every symptom of rheumatism is seen in one or other of these, but many of them have a distinct individuality and sequelæ which will enable us to withdraw certain cases of seeming rheumatism and refer them to their true parentage. As I happen to have met with several instances of these disorders of late I shall briefly refer to the chief types, with abstracts of my cases, and mention any points which are against a rheumatic origin. To return for a moment to the general question of diagnosis, it may be said that we should be largely guided by a history of previous rheumatic attacks; but this is undoubtedly very misleading and the source of much error, for such histories often refer to a previous attack of something else which bore a superficial resemblance to that disease. Especially is this true since some of the allied affections tend to recur again and again. Even endocarditis is no evidence of rheumatism, for, as we have said, it is produced by numerous causes. There is, indeed, no reason why one of

these affections should not occur in a person subject to rheumatism, so that even if the previous attack was really of that kind we must decide the case upon its merits. Of course, if rheumatism is really found far more frequently in connexion with one of these affections than in healthy persons we can argue a special relation, but its incidence on the general population is not accurately known.

The action of salicylates, too, is an uncertain guide. Their failure in an apparently typical case of acute rheumatism may lead us to consider carefully our diagnosis, but their reducing the pyrexia is no proof of rheumatism. A French writer has recently denied any specific action to them and considers that they merely exert a sedative or paralysing effect on all inflamed protoplasm. Whether this is so or not their action is not entirely confined to rheumatism. Thus we might be easily misled by them in cases of *influenzal arthritis* such as have been of late described by Dr. Sansom.[1] It is true that salicylates will often relieve the pyrexia and pains of influenza; but these cases where troublesome joint mischief accompanied and followed an attack showed from their course and sequelæ that they were certainly not rheumatic. In some of them the affection proved to be rheumatoid arthritis, which is a very different thing. Others developed into various forms of neuritis. In all there was little or no effusion within the joints, but the ends of the bones were tender and enlarged and the seat of most of the pain. In no instance has Dr. Sansom traced valvular heart disease to an attack of influenza, though dilatation, cardiac neuritis, and angina are not uncommon. Still, these cases were at first very like ordinary rheumatism. It is interesting to notice that some observers claim that salicylates will often relieve the crises of tabes, and of this I have seen some apparent instances, yet no one regards the arthritic symptoms of that disorder as rheumatic.

*Henoch's purpura* as originally observed by him in children was of a very definite type, presenting severe abdominal pain, intestinal and renal hæmorrhages, purpuric eruptions, often with vomiting, swelling of the joints, œdema of the hands and feet, and nephritis. Von Dusch and Hoche, and recently Osler, have collected some sixty cases, both in adults and children. If we refer to Osler's account[2] we find that he describes it as an erythema exudativum multiforme; but he notices that the skin affections may be absent altogether or appear only in one of the recurrent attacks which may present themselves year after year. The most constant symptom is a sort of gastric crisis, which may vary from a stomach-ache to an unbearable agony. With this there commonly comes on vomiting and diarrhœa, as well as pain and swelling rather around than in the joints. There is not unfrequently pyrexia, sometimes delirium, and nephritis of various degrees, from slight albuminuria to a fatal form with casts and anasarca. Hæmorrhages from the kidneys, bowels, and stomach are frequently seen, and recurrent attacks of bronchitis and hæmoptysis may occur, as well as eruptions of purpura, erythema, and urticaria; occasionally we meet with affections of the heart and spleen. Both here and in a very different disease—purpura hæmorrhagica—the melæna may arise from a slough and subsequent ulceration of the intestines, which causes, not only bleeding, but intractable diarrhœa and even perforation. The following is the history of a well-marked case under my own care for a time.

CASE 1.—A young seaman in perfect health was attacked on July 26th, 1896, by severe abdominal pain, for which he took castor oil. A little urticaria appeared and vanished as quickly. On the 28th the pain became intense, and he was found lying helpless and prostrate, with some tenderness to the right of the umbilicus, but the attack, though puzzling, was clearly not one of abdominal obstruction or appendicitis. The heart, the temperature, and the lungs were normal, nor was there any affection of the skin, kidneys, or joints. Some relief from the distress was obtained by the use of opiates, till on the 31st much pain and swelling of the wrists, especially of the right one, occurred. The temperature was still normal, but on Aug. 1st it rose to 100° F., and the pains became worse, with much aching in the thighs. Salicylates had little effect. An ulcer appeared on the edge of the tongue, as though a piece had been bitten out. On the 8th, and for a week onwards, the temperature varied from 100° to 102°, but meanwhile the arthritis disappeared and the appetite became good. After a sharp increase of the gastric pain, with vomiting and diarrhœa, on the 13th, these symptoms declined, but some dulness and diminished respiratory murmur were noted over the left scapula. On the 20th an extremely painful œdematous swelling spread over the right side of the scalp and forehead, and closed the right eye. There was no redness, and the pain was sufficiently severe to interfere with sleep, but the temperature meanwhile fell to normal and the appetite became voracious. In four or five days the swelling subsided, but on the 26th a purpuric rash appeared on the legs of a dull pale red, forming numerous close-set spots of the size of sixpence, extending a short distance up the thighs and accompanied with slight œdema. From this time gradual improvement set in, the patient gained flesh again, his anæmic condition gradually disappeared, and he returned to work on Sept. 11th sound and well in every respect.

On at least one occasion during the illness the vomit was blood-stained, and the apparent absence of any evidence of intestinal hæmorrhage may have been due to oversight in the nursing. It is noticeable that no history of poisonous food, pork, or shell-fish or of previous rheumatism was obtainable. I can see nothing in the general aspect of such cases when fully developed to entitle us to call them rheumatic. Dr. S. Mackenzie regards Osler's own group of eleven instances as a distinct form "where the hæmorrhages are accidental, not essential," but he appears to refer them all to the rheumatic class. Now it seems to me that there is a strong argument against this in the prevalence of nephritis, which occurred in fourteen out of the sixty-one cases reported; and in the rarity of endocarditis, which was present in only two out of sixty-one, and those not mild ones, for no less than thirteen were fatal. The occasional splenic enlargement is another point in the same direction. It appears rather that we have here a definite disease of an an acute toxæmic type, which I will call the Osler-Henoch, and which may be simple or hæmorrhagic. Many supposed cases of rheumatism are probably of this nature, which it is important to distinguish, if only from the difference in the sequelæ to be expected. It seems difficult, on the other hand, to look on this disease as erythema multiforme or purpura hæmorrhagica, since the eruptions may occur only once in four or five attacks, at any rate in adults. Dr. G. A. Sutherland,[3] in reporting recently three cases, looks on the joint symptoms as septic, though nothing has been discovered bacteriologically. Foreign opinion at the late Dermatological Congress was against any connexion with rheumatism.

*Angio-neurotic œdema* is a name given to another group of cases which are related in several ways to the Osler-Henoch disease. They are sometimes spoken of as Quincke's œdema, and the attacks are often ushered in by severe gastro-intestinal pain and disturbance. In one variety large patches of œdema of irregular shape appear on various parts of the body.

CASE 2.—A patient of mine, a widow aged fifty-two years, has suffered from it for several years. The wheals or patches recur frequently on the left cheek, the lower lip, and on the eyelids, where they seem almost fluid and transparent. There is no pain, redness, or itching, but a little pricking when the patches begin to swell up, which takes place every few days. She enjoys otherwise good health, but gives a history of "rheumatic fever," which may or may not be correct; there is no cardiac murmur. Two or more fingers in each hand are affected by lesions which appear to be those of rheumatoid arthritis and grate on moving. On the right olecranon and on the left wrist are subcutaneous nodules. The latter, again, it should be noted, are not found in rheumatism alone. Jamieson speaks of the frequently observed connexion of this œdema with rheumatoid arthritis, but beyond this nothing is known of its pathology. No relation whatever to true rheumatism has been made out, though fugitive œdemas, apart from the arthritis, do sometimes appear in the latter.

In *rheumatoid arthritis* we see another well-defined disease distinct from rheumatism, yet presenting many of its ordinary symptoms. Bannatyne and his fellow workers have apparently shown that in this complaint we have a toxæmic infection by a bacillus with irregular pyrexia, sweating, and tachycardia, and not infrequently pigmentation of the skin and purpura. Hæmorrhage from the mucous membranes is very rare, with the exception perhaps of hæmatemesis. The joint affections and muscular atrophy are the most commonly

[1] Medical Press and Circular, June 3rd, 1896.
[2] American Journal of the Medical Sciences, December, 1895.
[3] Pædiatrics, Nov. 2nd, 1896.

noticed symptoms, and it is remarkable that the great majority of the sufferers are women. This predilection for the female sex is shown, curiously enough, in the cases of erythema multiforme and purpura which Dr. Stephen Mackenzie collected as showing the so-called rheumatic history, the proportion being four or five to one. Another point of similarity with these diseases and Quincke's œdema is the occurrence of gastric crises which may be severe and periodical. Well-marked instances have been recorded by Dr. H. Waldo, and a typical patient of my own, thirty-two years of age, unmarried, complains of them strongly, as well as of the ordinary joint troubles. The history of the patients, the joints affected, the deformities, the sequelæ, and the results of treatment are other well-known points wherein this disease differs from rheumatism, though it bears a superficial resemblance.

I must only refer briefly to certain forms of *septic arthritis*, many of which are clearly non-rheumatic. Such are those seen in gonorrhœa, scarlet fever, diphtheria, especially that following the use of antitoxin, variola, and erysipelas. We may at once dismiss the purulent effusions. Gonorrhœal arthritis is intractable, tends to develop adhesions, and affects special joints, such as the temporo-maxillary, and is sometimes accompanied by purpura and endocarditis where the gonococcus has been isolated. Serous scarlatinal arthritis has usually been accepted as rheumatic. Here again fuller knowledge has narrowed the field. Dr. R. W. Marsden [4] points out that the affection is either (*a*) a simple synovitis which occurs about the sixth day and is six times more common than all the rest put together, (*b*) septic, (*c*) tuberculous, or (*d*) true rheumatism. The last only occurs during a late stage of convalescence, and is always subacute. The early type with which it is usually confounded never recurs, is not accompanied by sweating, does not fly from joint to joint, rarely if ever affects the heart or shows any other rheumatic sequelæ, and is specially apt to develop in the tendons on the back of the hand rather than in the wrist-joint. The true rheumatic type is rarer even than the purulent forms, and appears in a quite insignificant proportion of cases.

*Infective endocarditis* may present joint affections, sweats, and purpuric rashes, and was formerly regarded as rheumatic in origin. In fact, the transition in the symptoms from septic cases to ordinary rheumatic endocarditis is marked by insensible gradations. Still, it is recognised that most malignant cases are produced by strepto-, diplo-, or staphylococci, though the presence of the lesions of former rheumatic endocarditis favours the outbreak of the disease. Very rarely, says Dreschfeld, it may complicate or follow acute rheumatism. It is usually, if not always, a septicæmia. The symptoms at first may resemble in some degree those of Henoch's purpura, as in a case of my own, where a somewhat purpuric patch went on to gangrene of the finger where it occurred; but the peculiar sweats and pyrexia, the heart signs, and the emaciation are soon distinctive.

*Hæmophilia* is, indeed, a permanent and hereditary condition, due possibly, as Wright suggests, to a deficient formation of polynuclear corpuscles; but we often meet with attacks in those suffering from it which resemble rheumatism. There is suddenly felt a discomfort and sensation of tension in various parts of the body, the joints swell and become painful, so that the epithet "rheumatic" has been applied to them even by Bristowe. Purpuric spots and hæmorrhages follow, though no wound has been received, and of course hæmatemesis and melæna may occur. Yet this apparent arthritis is probably due merely to hæmorrhage in or around the joints; the throbbing will be felt around any wound far away from a joint before renewed bleeding, as I saw lately in a patient under the care of Mr. Fendick, and the purpuric rash is also produced by any slight blow. Other symptoms of rheumatism are wanting and the disease is limited to the male sex.

The still rarer affection called *pulmonary osteo-arthropathy* seems to have no connexion whatever with rheumatism, though the joint affections may be easily mistaken for it.

To turn to *erythema multiforme*. We have seen little reason for looking on the Osler-Henoch type as rheumatic, but this has been asserted with respect to the other forms. Kaposi notices the joint pains, occasional pyrexia, endocarditis, and meningitis sometimes seen in them, as in other septic affections; while Coulard and Garrod show that a rheumatic history is very common indeed. Erythema nodosum especially is claimed as certainly rheumatic, chiefly on the ground of the great number of patients who have such a history, and partly because the two affections occur together not infrequently. Thus Mackenzie found this conjunction in seventeen cases out of 108 collected from various hospital records, besides twelve others in which the erythema followed rheumatism. The symptoms most relied upon were arthritis, sweats, and sore-throat, while endocarditis developed in some patients at the time of the attack. Even the value of this strong evidence depends on the strict analysis of the cases. As I have said before, joint pains and endocarditis are not uncommon in many septic diseases, and may have been taken for true rheumatism by the compilers of these records if they chanced to be less careful and accurate observers than Mackenzie himself. It is a curious fact that erythema nodosum, which the English and Vienna schools distinguish so carefully from erythema of other kinds, is often accompanied by them and by purpura, the various rashes being visible on various parts of the body at once. The causation of the various erythemas is not easy to reconcile with theories of rheumatism. They often follow the ingestion of noxious food and occur in epidemics in spring and autumn. Both the other varieties and erythema nodosum are most common in women (nodosum being particularly rare in males) during early life or when suffering from some uterine disturbance. The meningitis, gastric troubles, and renal hæmorrhages occasionally seen in them are unknown in pure rheumatism. In any case, as the *Dermatological Journal* remarks, there are on Dr. Mackenzie's own figures 50 per cent. which show no rheumatic symptoms or histories whatever. If erythema nodosum has any connexion of the kind it is probably only that one disease favours the invasion of the other, and not that erythema nodosum is rheumatism attacking the skin.

In *purpura hæmorrhagica* there is another toxæmic infection of definite character, though the skin and other symptoms are occasionally almost indistinguishable from purpuras occurring in rheumatism. The following was a severe case which I attended recently.

CASE 3.—A young man developed a slight purpuric rash at Easter last. He remained at home for a few days and then returned to work, though the eruption continued to appear for some weeks. He felt perfectly well, but the rash at last began to increase, and besides the petechiæ dark-coloured blebs were now seen, which were especially noticeable on and under the tongue and upon the soft palate; a little hæmorrhage from the gums followed. He then presented himself at the Bristol General Hospital as an out-patient, and was with difficulty induced to come into the house, where the next day he died from a hæmorrhage in the brain.

In such cases we often find every evidence of septic intoxication, fever, sweating, joint pains, and a comatose state. Moreover, there is some evidence as to the agent causing the condition. Tizzoni, Babes, Kolb, and Letzerich have all found bacilli present in the tissues and blood of patients which reproduced it in a modified form in animals, and Letzerich managed to infect himself from his pipe during his researches on the subject, and suffered a pretty severe attack. Watson Cheyne also found colonies of bacteria inside the vessels in two cases though he failed in others. Quite recently Hayem and Rendu showed that the clot formed from the blood in this disease does not contract and squeeze out serum as it does with normal blood, or, indeed, as the clot does also in the secondary non-hæmorrhagic purpuras, which I shall speak of below. Besides the gastric and other hæmorrhages and occasional persistent diarrhœa from ulceration of the intestines, large areas of the skin may be rendered gangrenous by the hæmorrhages. Now, definite as the disease is, several cases where these severe bleedings occurred have of late been claimed as rheumatic. Thus, we find one reported by Surgeon-Captain Fayrer, where the tongue and part of the penis were destroyed by gangrene, though the patient, a healthy soldier, regained his health; but it is surely more rational to regard the symptoms as ordinary effects of the purpuric toxin instead of exceptional ones of the unknown rheumatic poison. Even if the attack concurs with one of acute rheumatism, as in a rare instance related by Dr. S. Mackenzie, we know that such coincidences are met with in other diseases; that pure phthisis is exceptional; that rheumatism itself chooses injured joints, and bacteria when injected into the tissues show the same predilection; while the typhoid bacillus so intensifies the bacillus coli that the latter produces a large part of the intestinal

[4] Medical Chronicle, Aug. 5th, 1896.

lesions. Similarly, these two diseases do at times coexist, and possibly one favours the growth of the other. In the great majority of severe attacks of rheumatism, however, there is no indication of anything of the kind, and the purpuric complication is at best a rare one. The simple forms of purpura which do not affect the mucous membranes or produce hæmorrhages are produced under various conditions. We find them caused by drugs such as iodide of potassium, and again in cancer, heart disease, and leukæmia. I am not concerned to deny the occurrence of this symptom in rheumatism any more than its appearance with arthritis after the injection of antitoxin, or during a streptococcal pyæmia. As Dr. S. Mackenzie describes it, during ordinary rheumatism, or before an attack or after, the patient may complain of a dull pain or feeling of tension in the legs. Towards evening or during the next day small red spots appear symmetrically on both legs and soon take a purple tinge, while the discomfort passes away. Successive crops follow and may even spread to the arms, but any hæmorrhage is extremely rare. Out of forty-two of his cases rheumatism was present, or had occurred in thirty-five, and pyrexia was found in a third of them. I do not know of any evidence to show whether this form is really the effect of rheumatism or of a secondary infection, but some authorities who accept a rheumatic purpura make peliosis a distinct disease, and include under it a large proportion of such cases. They define it as marked by arthritis and a rash appearing around the joints, papular at first, and then hæmorrhagic, sometimes followed by intestinal ulceration and diarrhœa. It is, they say, unaffected by salicylates and rarely causes endocarditis. Dr. Mackenzie found albuminuria and abdominal pain in about a tenth of his cases, which is rare in rheumatism, though not unknown, especially where endocarditis has occurred. Thus it is probable that many of these instances are really purpura hæmorrhagica, or the Osler-Henoch disease, though symptomatic purpura may be found in rheumatism as a result of blood changes.

To sum up, we find that a large number of diseases formerly included under rheumatism have been gradually differentiated from it. First this was done with respect to gout, then many septic joint disorders were separated from it, and now the diseases in the group under consideration are shown to have definite characters, histories of their own, and to be followed by lesions, such as nephritis and neuritis, unknown in rheumatism. This enables us to place under them also many ill-defined cases usually regarded as rheumatic from the joint and heart symptoms present, for close observation shows in them symptoms quite different from those of rheumatism, though common in the diseases referred to. Lastly, these affections do sometimes coexist with rheumatism and produce their own symptoms, and, indeed, they possibly favour the evolution of rheumatic outbreaks, and are themselves aided by its presence.

Clifton.

## CLINICAL TYPES OF PNEUMONIA.[1]

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I HARDLY know of anything more interesting in one's spare hours than to read a book on general medicine or surgery written fifty years or so ago. What an immense change has come about in almost every department of our profession whether the etiology or treatment of disease be considered! I well remember some twenty years ago, whilst dressing for the late Mr. Cooper-Forster, seeing a woman who was dying from acute septicæmia after an amputation of the breast had been performed, Mr. Cooper-Forster then remarking that it was impossible to account for these deaths, and that every now and then such a result would follow from an operation as the above. Even in my own recollection one most important disease has almost disappeared—viz., ague—and another—i.e., lardaceous disease is becoming very rare; the former forty years ago was rife in my own neighbourhood, and the latter was common when I was a student.

[1] A paper read at Rochester on March 19th, 1897, before the members of the North, West, and East Kent Districts of the South-Eastern Branch of the British Medical Association.

Before coming to the subject of my paper—the various types of pneumonia that are met with clinically—I will consider the past history of pneumonia. There can be little doubt that what is called to-day croupous, or lobar, pneumonia was the only form of the disease known to our forefathers. Watson, writing in 1848, in the third edition of his "Practice of Medicine" practically only describes lobar pneumonia; he gives a few lines to catarrhal or lobular pneumonia, but omits all reference to its pathology, physical signs, and treatment. Fibroid pneumonia he does not mention. Watson at the above date pictures most graphically all the classical signs and symptoms we now generally associate with an acute attack of sthenic pneumonia occurring for the most part in a young person from the so-called cause of chill, such as fine crepitation followed by bronchial breathing, bronchophony, dulness on percussion, the characteristic sputum, the relative increase of the respirations as compared with the pulse-rate, &c.; but, strange to say, the "crisis" is not referred to at all, probably, I suppose, because the thermometer was not in use at this date—still one would have thought that the application of the hand and the often collapsed state of the patient at this critical time would have demanded some special notice to this point. It was in this form of the disease that one, or sometimes all, of three well-known so-called specifics were used—viz., bleeding, tartar emetic, and calomel. The confidence in the foregoing was unbounded, and it would have been almost impossible for anyone not to have employed them, such was the faith in their efficacy. Graves, writing in his "Clinical Medicine" some few years before the period I have just referred to, speaks only of croupous pneumonia. He mentions as a rather common sequela or complication of the disease abscess of the lung; but on carefully reading over the notes of the cases there is some doubt in my mind whether these were not for the most part local empyemata or tuberculous cavities. However, at this date no exploratory needling or incision was made. Graves also recommends the old treatment of bleeding, tartar emetic, and calomel, but he advocated, as a rule, only two bleedings of twelve ounces at each time. The treatment by digitalis and strychnia is not mentioned at this date. My own reading and experience lead me to think that ordinary sthenic croupous pneumonia is not met with so commonly to-day as it was some years ago. I rarely see in hospital or private practice the disease accompanied with all the well known—I was going to say the examination or text-book—signs and symptoms. I believe that the type has somewhat changed. The various clinical varieties that are present with us now are in some instances due to different causes and require different treatment.

The phrase "congestion of the lungs," too, is constantly employed by the public and not infrequently by the members of the profession. It is quite difficult to understand in what sense it is used by the latter; when used by the former I pay no attention to it. Many years ago Dr. S. Wilks was constantly objecting to the prevalent use of the word "congestion," and he taught, I believe, that the term should only be used when the first stage of pneumonia was indicated. There can be no doubt that the first stage of a croupous pneumonia is that of congestion; but the question before us is, Is there such a thing as a congestion of the lung, pure and simple, apart from its association with pneumonia, and one that is not passive in origin, as seen in heart disease? I think that such a condition—which may be called "simple congestion" at present for want of a better term—does exist. It is almost impossible to demonstrate it as it is not a cause of death. The following case came under my notice a few weeks ago. A man, middle-aged, was admitted into the Victoria Hospital, Folkestone. At the base of the left side there was dulness on percussion, with bronchial breathing and bronchophony. On the right side at the base there was some loss of tone on percussion, with fine crepitation, but no bronchial breathing and no bronchophony. At the post-mortem examination the base of the left lung was found to be in a state of red hepatisation, with the characteristic appearance and qualities, and the base of the right lung in the condition known as congestion or engorgement. Now most of us have met with cases which gave only the signs that go with a congestion, and the subsequent history of the case has led us to make no further diagnosis. I see no reason, judging from analogous states in other organs and parts of the body, to say that this congestive state of the lung must necessarily go with pneumonia. On the other hand, I think the public and many of the profession use the word far too frequently and far too loosely.

When the term croupous or sthenic pneumonia is used in this paper it is that form which I have already mentioned as having been graphically described by Watson, with its well-known classical symptoms and signs, followed by crisis, generally supposed to be caused by exposure to cold. It occurs for the most part in youth and the middle aged, and the prognosis is good. The following forms, I think, we are justified in speaking of as clinically different.

*Pneumonia of influenza.*—It is very difficult to form an estimate of the proportion of cases of influenza that complicate pneumonia; but this complication is more frequent in some epidemics than in others, and I have sometimes thought some of our brethren seem always to have a very much larger number of pneumonia cases than others. This is probably due to the cause of a different method of classifying some of the chest troubles. The following seem to be the main and prominent characteristics of this form of pneumonia. The consolidation is not as a rule confined to one lobe; it begins in small patches, being more of the type of lobular pneumonia, although by the confluence of the various patches a large area of the lung becomes affected. It is rapid in its extension, and often both lungs are involved. The signs of bronchial breathing and bronchophony are not well marked, but crepitant râles are prominent. The cough is troublesome; the sputum is often profuse, and does not possess the ordinary sticky and rusty-coloured quality. I have seen two fatal cases of influenzal pneumonia, and the rapidity of the extension of the disease was remarkable in each case. No case of ordinary sthenic pneumonia has come under my care in connexion with influenza, although it is said to occur.

*Septic pneumonia.*—This form seems to be met with more frequently in young adult life or in middle age, and is seen rarely after sixty. The cause is not always easy to fathom, for the origin of the infection may be in some pent-up pus undiscoverable during life. One of the most typical cases ever seen by me followed an attack of facial erysipelas. The pneumonia is patchy in distribution, and whilst one patch is clearing up, another is appearing somewhere else, either in the same lung or in the other. The physical signs are not well-marked, and, of course, change as the disease shifts from one spot to another; the percussion note is impaired, but not very noticeably; bronchial breathing and broncophony are often present. The temperature follows a septic course, and the general appearance of the patient is one of blood-poisoning. There is no sputum, the disease is chronic in its course, and fatal in prognosis. The bacillus streptococcus is present in some cases.

*Epidemic pneumonia.* — The epidemics of pneumonia described as happening in the sixteenth, seventeenth, and eighteenth centuries are difficult to follow out and to understand; they are described pretty fully by Hirsch, of Berlin, in his "Handbook of Geographical and Historical Pathology," published by the New Sydenham Society in 1886. The epidemics existed in almost every part of the world. In reading the acounts of the above one feels that there is want of detail and accuracy about them which takes away very much of the value of the reports given. We must not forget, however, that auscultation was not practised or understood until the beginning of the present century, and the value of the thermometer is of recent date. It is during the last ten years that reliable knowledge has been obtained in reference to this form of pneumonia. An epidemic broke out in Middlesbrough in 1888 and was thoroughly investigated by the late Dr. Edw. Ballard. Two years later a similar epidemic, although on a smaller scale, occurred in the village of Scotter, in Lincolnshire, and was examined and reported on by Dr. H. F. Parsons. The disease appears to be a constitutional infection—a pneumonic fever. The incubation is short. There is a rapid rise of temperature and the constitutional disturbance is out of all proportion to the evidence of the local pulmonary disease. The cough is trivial. Delirium is early present. The fatal cases occur often on the third or fourth day. It is common for the physical signs of pleuro-pneumonia to be observed in one or both lungs on the second day. Convalescence usually begins by crisis on the seventh day. Relapse is common; mortality is high.

The infection is given off or tends to be given off, in the breath and sputa, and it is acquired by inhalation and perhaps by swallowing. The ease of transmission from person to person is much influenced by lowered vitality on the part of the recipient, and by close and prolonged contact with the patient. The treatment is thus important. The ordinary preventive measures of isolation and disinfection must be carried out.

*Typhoid or asthenic pneumonia.*—This comes on in a diseased condition, and therefore the clinical type is changed. The so-called typhoid symptoms are generally present, such as low delirium, tremors, paralysis of the sphincters, a brown, dry tongue, sordes on the teeth, the pulse feeble and rapid, &c. The pneumonia begins gradually, and is never sharply defined. The symptoms of rigor, pain, and rusty sputum are absent, and there appears to be no crisis. For the above reasons this complication, as it may be called, is often overlooked, yet it may be the immediate cause of death. In most cases the pneumonia is due to the pneumococcus of Fränkel; in some few, however, the typhoid bacillus has been found.

*Pneumonia of the aged.*—The pneumonia of old people certainly seems to me to carry with it a certain combination of signs and symptoms differing from the described preceding types. The disease comes on very insidiously and is accompanied with a general weakness of the body, which may overshadow the lung mischief. There is no rigor, no pain, and little cough. The temperature is probably little raised throughout, often not rising above 100° or 101° F.; the pulse at first is not much quickened, but the rapid increase of respiration is marked, and the patient complains of want of air. The patient lies on the affected side. There is little if any expectoration. The physical signs of dulness, bronchial breathing, and crepitation are all present, but the dulness is not great, and the crepitations are coarse in quality. The prognosis is bad. It is important owing to the latency of this form of pneumonia to examine the lungs in all acute illnesses of the aged. The above must not be confused with that which is known and described as "hypostatic pneumonia"; this latter state comes on at the end of an illness, being found in both lungs, and at the most dependent positions. Strictly speaking, it is a passive condition.

*Alcoholic pneumonia.*—This form is the last I will mention. Alcoholic pneumonia can be better recognised when seen and examined than when described. The delirium which is constantly present calls out for much attention, whilst the chest mischief may be proceeding unnoticed. The man is much worse than his physical signs would lead one to expect, and it is the general downhill condition of the patient that strikes one rather than any local disease. The sputum is profuse and dirty in colour, whilst the temperature is only moderate in height, and if the patient lives long enough the crisis is a feeble one. The prognosis is bad. I may say that as a rule low temperatures and profuse expectoration I have always looked upon as bad omens in forming a prognosis.

Probably most of the types of pneumonia I have been describing are pathologically almost identical, differing more in degree than in kind from one another. However, we know that when meeting with these varieties the prognosis and treatment are unlike in nearly all of them. Let me take as examples one or two diseases in each of which there are forms which pathologically seem alike and yet prognostically and therapeutically are dissimilar. Diabetes in people under forty years of age is a serious disease. The prognosis is bad, yet a case may be much improved by treatment. Diabetes coming on in persons aged over sixty years seems to be almost a harmless disease, and very often, except for the attendance of the medical man, would not be taken heed of by the patient. Clinically these two forms must be classed differently, but as regards the presence and even amount of sugar they are alike. Again acute Bright's disease following scarlet fever, as far as the urine and general symptoms are concerned, is identical with that form following exposure to cold. Yet we know clinically that the prognosis in the former is much better than in that of the latter. So I might give you other instances, but the above will suffice.

In a paper read a few months ago before the members of the West London Medico-Chirurgical Society[2] I advocated that there should be a more precise clinical classification of disease, and that it is unscientific as well as unpractical to speak of pneumonia, peritonitis, meningitis, neuritis, &c., unless some qualifying adjective is used to indicate the nature of the disease. I have attempted here to classify pneumonia clinically, although probably not entirely satisfactorily.

Bacteriologists wish and believe that various forms of disease should be classified according to the micro-organism to which the particular form is due. This method at first

[2] A Plea for a more Precise Classification of Disease, THE LANCET, Jan. 16th, 1897, p. 180.

sight would seem a simple and satisfactory one, but practically bacteriology is not in such a sufficiently advanced stage for us to adopt this mode. Before many years are passed—the clinical physician and the bacteriologist working more closely together, each correcting and aiding each other—we shall arrive at much more satisfactory classification of disease than at present exists. In the meantime I think that there is room for the clinical physician to be more accurate in his own line than sometimes he has been in the past, hence the reason why I have written my paper on the clinical types of pneumonia.

Folkestone.

## A CASE OF STRICTURE OF THE RECTUM.

BY JAMES DUNLOP, M.D.Q.U.I., L.R.C.S. EDIN., &c.,
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A WIDOW, aged sixty-nine years, of strong constitution and the mother of thirteen children, had an attack of constipation on April 19th last year while in the south of France, accompanied by abdominal pain, increase of temperature, and vomiting, from which she recovered. Enemata, some with turpentine, were assiduously used until the bowels acted; poultices were applied, and purgatives were given. On May 15th the patient arrived in London, where she again used purgatives to combat constipation, and on one occasion had to keep her bed for several hours, owing to nausea, until the bowels acted. On the 29th, when in Ireland, she had another attack of constipation without rise of temperature or local pain, which yielded to the previous treatment. A fourth attack occurred on June 12th, and five grains of calomel were given. This was followed by nausea and vomiting; retching continued for some time; enemata were then tried, but nothing came from the bowels except a small quantity of a tar-like substance. On the 15th a specialist was called in by the medical attendant. He stated that he made a digital examination of the rectum and carefully examined the abdomen, and that he could detect no stricture or organic disease, and was unable to say what caused the constipation. He further stated that the bowels were so little distended that if there were any organic tumour, impaction of fæces, or stricture, he believed that he would have felt it. He considered that from some unknown cause there was paralysis of a portion of the intestinal canal, similar to that which occurs after a surgical operation, and that by rectal alimentation and the administration of purgatives, combined with medicines to give tone to the intestines, all would come right. Cascara, nux vomica, and belladonna were prescribed. From the 17th till the 30th the bowels acted irregularly, diarrhœa followed the medicine and constipation ensued when it was omitted. The dejecta were fluid and much broken up, on three occasions they were described as small and of a coffee-ground colour. The anticipated relief was not experienced. On two occasions the consultant was told of her condition and he advised her medical attendant to persevere with the medicine. On the 30th, the bowels acted once; the stool was scanty, and semi-fluid; flatulence and nausea were troublesome. From this date till July 6th, there was no action of the bowels. There was no vomiting unless medicine was taken; enemata of glycerine, aloes, soda, turpentine, &c., were used without relief; the patient was in bed and the temperature was normal. The consultant again saw her and found that the bowels were too distended to permit him to examine the abdomen as he had done on his first visit. He stated that a portion of the intestine was filled with fæcal matter, but that it was soft and doughy on pressure. Tincture of belladonna was prescribed; nutrient enemata of peptonised milk and yelk of egg every four hours; no solid food to be taken; tepid water to be used every twenty-four hours to wash out the bowel; expectant treatment to be relied on. On the 13th the medical man who had attended the patient in France, met the specialist and the regular medical attendant in consultation. Absolute constipation had been present from June 30th; the abdominal distension had increased; coils of distended intestine were easily felt and observed raising the abdominal walls; there were marked borborygmi and flatulence, but no vomiting or pain on pressure, the temperature being normal. Pills, each of a quarter of a grain of calomel with two grains of colocynth and hyoscyamus were ordered; one to be taken every two hours until the bowels were moved. By July 17th twenty-nine of the pills had been taken; the bowels had not acted, and the pills had to be omitted because of the irritation of the stomach. The retching was painful to witness; the lips were parched, and the patient almost incessantly sipped cold water; the abdomen became more distended, but there was no pain on pressure. On the 20th there was no improvement; after a tepid water enema, some matter, like shreds of membrane, was expelled. On the 22nd the patient was more cheerful. Two of her sons, surgeons, arrived from London, one of whom expressed his opinion that nothing except an operation could then save life. Consequently, on the 24th, a professor of surgery and the specialist were called in consultation with the medical attendant to consider the advisability of operating. The patient's bowels had not acted for twenty-four days. On examining the patient they found the temperature to be 98° F.; the pulse 92, weak and regular; there was no pain; the abdomen was much distended and pear-shaped; there was tympanites, which did not interfere with chest organs; the liver was displaced upwards; and there was a duller note along the descending colon, which was greatly distended. They considered it inadvisable to operate, but the professor of surgery was of opinion that "Hutchinson's taxis" might be tried if the conditions were not soon spontaneously relieved. An enema of cajuput and assafœtida was given and it was advised to elevate the foot of the bed for fifteen or twenty minutes daily. On the 25th the patient was much the same. A telegram was sent in the evening to a London surgeon. A very brief recapitulation of the case was given and the question asked, "Is colotomy advisable"? The reply was, "Patient is sure to have stricture somewhere in colon or low down in small intestine. Should advise abdominal exploration in middle line of abdomen to find situation of stricture, and then open gut above stricture, bringing it to surface at the most convenient part of abdomen." On the 26th the patient was depressed and worse. The same consultants as on the 24th were called in and requested to come prepared for immediate operation. The telegram was submitted to them to strengthen opinion should they consider the patient had sufficient strength to bear an operation. The opinion held by them was that abdominal section in the patient's present state was unjustifiable. On the 29th another consultant was called in. He examined the abdomen externally before the medical attendant, and expressed his opinion not to operate, but to wait for more urgent symptoms. The bowels had not acted for thirty days and all the signs and symptoms were more grave. Hypodermic discs of one-sixth of a grain of sulphate of morphine with $\frac{1}{100}$th of a grain of atropine were prescribed, one every eight hours placed under the tongue, under the impression that the constipation was caused by a spasmodic stricture of the intestine, which would yield once the system was completely under the influence of opium. The last consultant saw the patient on Aug. 1st, 5th, and 10th. The treatment was continued as it gave the only relief the patient had from urgent symptoms. On the 12th, the bowels not having acted since June 30th, at 10 P.M an œsophageal tube was attached to a syringe and very carefully passed for twenty-four inches into the bowel. When about seven or eight inches in it seemed to move along a curved surface with difficulty, and then suddenly to glide forward. A tepid water enema was thrown up and retained. On withdrawing the tube about half a pint of semi-fluid fæces, greatly broken up, was expelled; the tube was covered for about sixteen inches from its distal end with tenacious fæcal matter. The next two days, after an enema had been given in the same manner, a similar discharge was noted. On the 15th, as the patient was sinking, the last consultant was again brought. He prescribed various cardiac stimulants, some to be administered hypodermically. On the 16th there was much restlessness and perpetual movements of the hands in jerks. Consciousness was retained until a few hours before death, which occurred at 4 15 A.M.

*Remarks*.—The bowels had not acted for forty-two days. Life during that period had been sustained chiefly by rectal alimentation. A necropsy was performed thirty-five hours after death. The abdominal cavity and its organs were healthy; there was no effusion or escape of fluid into it. The small intestine was normal throughout; the large intestine was enormously distended, but healthy as far as the rectum, and was gorged

with semi-fluid fæcal matter. Nothing was observed to account for the obstruction, and the examination was about to be given up, when one of the deceased's sons urged the necessity of examining the rectum. An annular stricture of the latter was found in its first portion, just below the sacral promontory, with puckering of the gut above and below it. The stenosis was about an inch in length, and its calibre was not greater than to admit the tip of a man's little finger; it tore easily, as sloughing had commenced; there was ulceration. A piece of the gut was retained for microscopical examination. No sections were then made of the specimen, as it was considered very rare and worthy of being exhibited at the first available meeting of the Ulster Medical Society to be held in December. In April, 1897, I forwarded the specimen to the Clinical Research Association in London and received the following report with two prepared slides:—"The enclosed sections have been made through the ulcerated and strictured portion of the rectum. In consequence of decomposition the tissues have failed to stain, and much of the growth has disappeared. But this much can be made out. There is a deep ulcer in the wall of the rectum which has excavated the muscular coat and almost perforated it in the centre of the ulcer. Among the muscular fibres there are oval spaces which contain a few distorted cells and some granular matter. At the edge of the ulcer the Lieberkühn's follicles of the normal mucous membrane are seen. From the characters of the ulcer, and the situation of the spaces or alveoli in the muscular coat, there can be no doubt that the stricture is due to a deeply ulcerated malignant growth which has invaded the entire thickness of the wall of the rectum. Such growths are invariably columnar—called carcinomata when primary in the colon—and there is no reason for doubting that such is the present case. It is also well known that carcinoma may produce an exceedingly tight annular stricture of the colon, with very little evidence of new growth owing to the ulceration which accompanies it."

Ballylesson, Belfast.

# Clinical Notes:

## MEDICAL, SURGICAL, OBSTETRICAL, AND THERAPEUTICAL.

### A CASE OF PERSISTENT SYMMETRICAL SUBCUTANEOUS FIBROUS NODULES IN AN ADULT, ASSOCIATED WITH MITRAL ENDOCARDITIS.

BY MAURICE EDEN PAUL, M.D. BRUX., M.R.C.S. ENG., L.R.C.P. LOND.

AN able-bodied seaman in the British Navy, aged twenty-five years, came under my care on March 29th, 1896. No history of rheumatism, either family or personal, could be obtained. The patient first noticed the nodules about a year previously; they had been steadily increasing in size and number. He applied for advice because the nodules over the hips pained him when he lay down; otherwise they caused no pain or inconvenience, and he did not regard himself as ill. He was, indeed, the "strong man" of the ship. Over the upper part of each femur, on the outer aspect of the limb, about three inches below the great trochanter, there was a group of nodules, ten or twelve in number, each nodule being about three-eighths of an inch in diameter and a quarter of an inch thick. They were closely packed and felt like beans in a bag. They were not tender. The whole mass formed on each side an elevation about one and a half inches across and one inch high. The symmetry was exact. The skin was moveable over the nodules, and the nodules were moveable over the deep fascia. There were also several nodules irregularly placed on the posterior aspect of each forearm. There was a well-marked mitral systolic murmur, unquestionably organic, but there were no signs of any considerable degree of regurgitation. The rhythm was regular, and there was no increase of dulness to the right of the sternum. As regards treatment I advised counter-irritation and the use of a mixture containing potassium iodide, guaiacum, citrate of potassium, and quinine. The patient was seen by me in the end of March, 1896. A year later the staff-surgeon under whose care he had remained wrote to me as follows: "The man with rheumatic nodules is well and hearty, barring the bruit, which remains, but is not worse. The fibromata were removed where they were giving trouble from their size, and there is no recurrence."

As far as my knowledge goes, this case is unique in the literature of the subject of subcutaneous rheumatic nodules. These bodies occur chiefly in children as part of an attack of acute articular rheumatism, and are usually associated with grave cardiac lesions. Newton Pitt[1] speaks of large, persistent, subcutaneous fibrous nodules associated with arthritis deformans. The evidence of endocarditis in the case I have described led me, however, notwithstanding the anomalous course of the nodules, to regard them as a true rheumatic product. That "rheumatism" can lead to the formation of bodies that deserve the name of "fibromata," and require a surgical operation for their removal, has not, I think, hitherto been recognised.

Nagasaki, Japan.

### A CASE OF INSOLATION ACCOMPANIED BY HEMIPLEGIA.

BY ARTHUR F. MESSITER, M.R.C.S. ENG., L.R.C.P. LOND.

ON July 20th, 1896, a healthy boy, aged four years, was out of doors with his father nearly all day long under a burning sun. In the evening the boy "did not seem well," and on the following day he complained of headache. On the 22nd I saw him for the first time. He was drowsy and complained of headache. The temperature was 104° F., the pulse was 120, and the respiration was 18. The tongue was furred; there was no vomiting. Cardiac and pulmonary auscultation revealed nothing abnormal; no abdominal tumidity or tenderness was present. No albumin or sugar was detected in the urine. No joint swelling or pain was present and no scratch or wound was to be found. I ordered three grains of calomel to be administered. On the 23rd the bowels had not acted. The patient was semi-comatose, with a temperature of 104°. An enema was administered with a satisfactory result. On the 24th he was comatose, the temperature being 104·5°. Left facial paralysis was present. The left arm and leg did not respond to stimuli so strongly as the right limbs. During the day the temperature rose to 105·8°, but fell to 103° after the application of an ice-bag to the occiput and the nape of the neck. Nutrient suppositories and enemata of peptonised milk were given. On the 25th and 26th the patient was still comatose; he was breathing quietly, the pulse ranging from 100 to 120 and the temperature from 102° to 103°, rising to 105° on two occasions when the ice-bag became warm or was removed. The bowels and bladder were emptied involuntarily. Rectal feeding was continued as usual. The pupils were neither dilated nor contracted. On the 27th the temperature was 99°. Consciousness was evidently returning. On the 28th the patient was conscious to the extent of speaking intelligently but indistinctly. Owing to his return to consciousness the facial paralysis was seen to be well marked. The eye could be closed with difficulty; the leg could not be moved at all, and the arm only slightly. I was unable to examine the discs for another week owing to his fractious condition; they were normal, and there was no obvious retinal change. Six months elapsed before all traces of paralysis disappeared, and even now he is occasionally noticed to be sleeping with one eye open. He is now (eleven months subsequently to the time of the illness) quite strong mentally and physically.

This case is interesting on account of (1) the gradual onset, (2) the absence of respiratory disturbance, and (3) the occurrence of hemiplegia. Hemiplegia as a complication of heat-stroke must be extremely rare, as I am unable to find any record of it. Dr. Hilton Fagge mentions the case of a sailor who suffered from sunstroke. He was unconscious for some hours, had aphasia for a month, and right hemiplegia for some considerable time. Four years afterwards this man was admitted into hospital suffering from renal dropsy, and died. At the necropsy the arachnoid was seen to be opaque and marked with white spots, and there was an excess of

[1] Transactions of the Clinical Society of London, 1894, vol. xxvii., p. 54; quoted by Archibald Garrod in Twentieth Century Practice, vol. ii., pp. 542 and 543.

fluid in the brain; the vessels at the base, also, were much diseased. The hemiplegia was, therefore, probably, as Dr. Hilton Fagge points out, an accidental complication depending on pre-existing disease. Surgeon-General Maclean, a man of exceptionally wide Indian experience, in his "Diseases of Tropical Climates" distinctly states that he never saw hemiplegia follow directly on sunstroke.

Epworth, Doncaster.

## AN ANENCEPHALOUS MONSTER.

BY SANDERSON MELLOR, L.R.C.P. & L.R.C.S. EDIN., L.F.P.S. GLASG.

A PERFECTLY healthy and comparatively young woman engaged me in the beginning of the present year to attend her in her eighth confinement. My first visit on that occasion was at about 3 P.M. The os was nearly fully dilated; the pains were long and very strong. Through the membranes I felt an uneven, irregular, softish mass, but no bony protuberance of any description. I was told she had been walking about the room since 9 P.M. the previous day. She was becoming exhausted from want of sleep, so I gave her thirty minims of tincture of opium and left her. I was sent for again at 10 o'clock the next morning. Meantime she had dozed for about one and a half hours. The membranes had ruptured and were projecting through the os. I felt something which I likened to the "rim of a cup." She was so worn out that I applied the forceps. Time after time, although the instruments locked, did they slip off. Meantime the fœtus was descending until this irregular mass projected from the vagina. I grasped it with both hands, but finding it impossible to deliver with traction I obtained a piece of "clothes line" and fixing it round the neck, pulled with such force that I thought the head must separate from the body. When the fœtus came away the obstruction was found to be due to the unusual development of the shoulders and upper part of the chest. The head was peculiar. It looked as if it had been arrested in growth from above the orbital ridges in front, and from the level of the protuberance behind. The scalp was intact, the top of the head was quite flat, and the soft pulpy brain could be easily felt. The eyes were extraordinarily large and the eyeballs protruding. The nose was flattened on the face and very broad below. The mouth would not admit the little finger, and the lips were very thick. The spinal column appeared intact. All her previous children were well developed, her sixth and seventh confinements being unusually prolonged. No chloroform was given, and she quickly recovered.

West Malling.

THE NORTH-WEST LONDON HOSPITAL.—The eighteenth annual report of this institution reveals the satisfactory and unwonted fact that not only is the hospital free from debt, but that at the beginning of the year it had a balance in hand of over £2000. The sphere of its work is the somewhat dismal region of Kentish Town, which, if not so poverty-stricken as parts of Westminster or Kensington, yet contains an enormous population to whom the struggle for a respectable existence is very real. During 1896 there were 578 in-patients, as against 683 in 1895, and 17,800 new out-patients, as against 21,227. The decrease in the number of the latter is notable and satisfactory. The hospital is undoubtedly a necessity for the district it serves, and we hope that its satisfactory financial conditions will continue.

WIGAN MEDICAL SOCIETY.—A meeting of the above society was held on June 3rd, the President, Mr. C. T. Street, being in the chair.—The President read his address on the Refusal of Food and Feeding.—A discussion followed, in which Mr. Graham, Dr. R. P. White, Mr. Brady, Mr. Monks, Dr. Rees, Dr. Blair, Dr. Milroy, and Mr. Macdonald took part.—Mr. Street replied.—A cordial vote of thanks was accorded to Mr. Street for his interesting address.—Dr. Benson showed a Radiograph of a Coin Impacted in the Œsophagus, taken by Mr. Thurstan Holland, of Liverpool. He related notes of the case, described the method of removal of the coin (after being lodged for nearly six months), and exhibited it. The child was now quite well.—A discussion ensued, Mr. Brady, Dr. Rees, Mr. White, Mr. Graham, Mr. Monks, Dr. Blair, Dr. Milroy, and the President taking part in it.—Dr. Benson replied.

# A Mirror
OF
# HOSPITAL PRACTICE,
## BRITISH AND FOREIGN.

Nulla autem est alia pro certo noscendi via, nisi quamplurimas et morborum et dissectionum historias, tum aliorum tum proprias collectas habere, et inter se comparare.—MORGAGNI *De Sed. et Caus. Morb.*, lib. iv. Proœmium.

## UNIVERSITY COLLEGE HOSPITAL.

### THREE CASES OF STRANGULATED OBTURATOR HERNIA.

(Under the care of Mr. RICKMAN GODLEE.)

A CASE of obturator hernia was first described by Arnaud; Duverney also noticed its occurrence, but the first clear account of this rare condition was given by Garengeot in the early part of the last century. The frequency with which cases of strangulated obturator hernia end fatally is due in part to the difficulty in diagnosis and in part to the difficulty in treatment. The signs of an obturator hernia are very obscure; the pain in the thigh and knee due to pressure on the obturator nerve and the swelling on the inner side of the thigh are very suggestive when they are present, but, unfortunately, they are very frequently absent. The signs of intestinal obstruction resulting from strangulation of the included bowel are often not at all well marked, and this is probably because the hernia is really in many cases a partial enterocele or Richter's hernia, and the absence of severe symptoms may also account for the delay in applying for treatment. Apparently the small intestine is the most frequent viscus in the sac, but the presence of the right ovary and Fallopian tube has been recorded.[1] As to the treatment to be adopted opinions differ greatly. If the intestine is still viable a good result may follow either a local incision or a laparotomy, but if it be gangrenous the chances of recovery after either operation are very slight. In THE LANCET of last year[2] we recorded a case of bilateral strangulated obturator hernia, in which Mr. W. Anderson successfully operated on both sides by an incision through the pectineus muscle. Mr. W. H. Bennett has published[3] a very interesting case of this form of hernia occurring in a woman seventy-eight years old; he performed laparotomy four days after signs of obstruction commenced and the patient recovered. For the notes of the cases we are indebted to Mr. Douglas Drew, the surgical registrar.

CASE 1.—A woman, aged seventy-four years, was admitted to the hospital on Dec. 11th, 1895. On the 3rd she had been seized with pain in the abdomen, and from that date until admission no motion or flatus was passed, in spite of repeated enemata. She looked older than her stated age and was extremely emaciated. An examination of the abdomen was made shortly after admission—i.e., on the eighth day after the onset of the symptoms. Slight vermicular movement of the intestine was noted, the abdomen was quite flaccid, and nothing abnormal could be made out beyond a small inguinal hernia on the right side, which was readily reducible. A large enema was administered without result, and on the following morning it was repeated without effect. At first it was decided to leave the patient alone, as any operation seemed out of the question; but as her general condition did not get worse, and, if anything, rather improved, though the abdomen became slightly more distended, and she vomited twice, on the second day an exploratory laparotomy was decided upon and performed through an incision in the right iliac region. On opening the peritoneum small intestine presented, and was of a deep red colour and slightly distended. The coil was traced downwards and was found to be adherent in the pelvis. Gentle traction was made upon it and it became loose. On drawing it into the wound it was found to have ruptured transversely, and was in a sloughy condition. It contained solid fæces, some of which escaped into the peritoneum. A second perforation was found three inches lower down. The damaged bowel was clamped, and four inches were excised. The mesenteric vessels were

[1] Von Rogner-Gusenthal, Wiener Medizinische Presse, June 25th, 1893.
[2] THE LANCET, April 4th, 1896.
[3] THE LANCET, May 4th, 1895.

ligatured, and the ends of the bowel were then secured by continuous silk suture to the edges of the wound, a Paul's tube being inserted into the upper end of the bowel. The patient only survived the operation a few hours.

*Necropsy.*—At the post-mortem examination signs of early peritonitis were visible. The pelvic peritoneum was injected, and around the right obturator foramen it was almost gangrenous. The tip of the finger could be inserted into the obturator foramen.

CASE 2.—A woman, aged forty-seven years, was admitted into the hospital under the care of Dr. Ringer on March 6th, 1896. The following history was obtained. Eight days previously she was seized with sharp pain in the right groin, which made her feel very faint and was at once followed by vomiting. The vomiting recurred several times the following day and continued until admission. The bowels had not acted after the onset of the pain, but flatus was passed shortly after the onset of the symptoms. She was the subject of chronic constipation, and twelve years previously had had an attack of gall-stones. On admission she did not look very ill. The pulse was 100 and of good quality, the temperature was 96° F., the tongue was red but clear, and the breath was offensive. The abdomen was slightly distended and peristaltic movements were obvious. There was no tenderness, and nothing abnormal could be felt. The rectum was empty, and per vaginam a little tenderness was present on the right side. For two days the treatment consisted of cutting off all nourishment by the mouth, giving enemata and nutrient injections and opium. On the third day, as the bowels had not acted and the abdomen was becoming more distended and vomiting had recurred, exploration of the abdomen was decided upon, and was performed through a median incision below the umbilicus. On opening the peritoneum congested coils of intestine presented. On digital examination the intestine was found adherent around the right obturator foramen, and a small piece had entered the foramen and could not be withdrawn by gentle traction. A hernia knife was passed down and the constriction divided and the bowel drawn up into the wound, when it was found to have given way just above the hernia, some fæces escaping into the peritoneum. On examination a pouch about half an inch in length projected from the side of the bowel; it was deeply congested, but not gangrenous, and had evidently been constricted in the foramen. The peritoneum was cleansed by sponging and the bowel was drawn into the wound and sutured, the opening in it being enlarged. The patient sank a few hours after the operation.

*Necropsy.*—At the post-mortem examination the coils of small intestine were greatly distended and inflamed, and some lymph was present in the pelvis. The strangulated portion of the bowel was eighteen inches from the cæcum; below the constriction the bowel was collapsed. The right obturator foramen admitted the tip of the little finger, and a hernial sac measuring one and a half inches extended between the obturator externus and the adductor muscles; it was black and gangrenous. The obturator vessels and nerve were situated below and to the outer side. A small piece of omentum was adherent within the sac.

CASE 3.—A woman, aged fifty-nine years, was admitted into the hospital on Dec. 8th, 1896. On Nov. 30th, while sitting in front of the fire, she was seized with severe pain in the right knee, and this was soon followed by abdominal pain. Vomiting occurred soon after the onset of the pain, and persisted throughout. The bowels had not acted, except on the second day after the onset of the illness. On admission the abdomen was found to be much distended, and coils of intestine were visible. There was some tenderness in the right groin, and a small rounded mass could be made out just below the inner part of Poupart's ligament. An operation was at once performed; the incision was situated over the inner part of Scarpa's triangle, and extended from just above Poupart's ligament downwards for three inches, and was placed internal to the saphenous vein. On opening the deep fascia the adductor longus was exposed, and the interval between this muscle and the pectineus defined and opened up. The edges of the muscles were retracted and some fibres of the adductor brevis divided. The superficial part of the obturator nerve was then seen lying over the sac, the latter having come through between the fibres of the obturator externus. The sac was opened; and as the bowel did not appear to be damaged beyond being somewhat congested it was reduced by gentle pressure, the sac being ligatured and cut away. The following morning the patient appeared to be doing well, but in the afternoon she complained of abdominal pain, and shortly afterwards became collapsed and died.

*Necropsy.*—On opening the abdomen well-marked signs of general peritonitis were present. The small intestines were distended and injected, and here and there flakes of lymph were seen. The omentum was adherent to the right side of the pubis. On separating it, the small intestine was found adherent around the obturator foramen, the part above the seat of constriction was distended and injected, and that below was pale and collapsed. On separating the adherent intestine the strangulated part gave way along the line of constriction for about half an inch. The constriction surrounded a prominent knuckle and involved a little more than half of the circumference; the strangulated portion was of a deep red colour, and did not appear to be gangrenous except where it had given way. The specimen was removed and the vessels were injected. Viewed from the front there was a small protrusion of peritoneum through the somewhat enlarged foramen. The artery was situated below the sac, and was dividing into branches, some of which came out on the inner side and others through the membrane. The two branches of the obturator nerve lay to the outer side. Viewed from the inside the neck of the sac was small, and in depth measured about half an inch. Immediately below it lay the Fallopian tube and broad ligament, the former being drawn down by the broad ligament. On turning the Fallopian tube upwards a second smaller pouch was found, formed by a protrusion of the broad ligament, and was firmly fixed in the sac. The bowel had been protruded through the upper of these two pouches.

*Remarks by* Mr. RICKMAN GODLEE.—It seems well to record these three cases, though they were all unsuccessful. It will be observed that they were all admitted to the hospital eight days after the onset of the symptoms, and therefore were all very unfavourable ones for treatment. The first patient was so very old and emaciated that she looked more dead than alive, and I thought it was kindest to leave her alone; but when it was found that she remained exactly in the same condition for more than a day I decided to give her a chance. The condition of things was easily made out, and there was no difficulty about the surgical procedure adopted. The operation was delayed in the second case because no diagnosis was possible, and the effect of enemata had not been tried. The third case was easily diagnosed and was operated upon at once. The great ease with which the bowel ruptured in the first two cases, and the difficulty of satisfactorily dividing the stricture from above, determined me to operate on the next case that occurred from outside. The operation in this case was perfectly simple as the patient was thin. Here, as in the other cases, a small part only of the bowel was included in the hernia, and, as in them, was after the lapse of so many days but little altered in appearance. The gentlest pressure of the tip of the finger on the minute knuckle of bowel was enough to make it return into the abdomen, and it seemed fair to hope that the part which had been opposite the neck of the sac might not be gangrenous, but the event showed that this was not the case. It was, of course, impossible to pull the bowel down and ascertain the actual condition of things. I cannot help thinking that if the patient be seen early the right course to pursue is to operate from outside. But if I should meet with another case that has lasted so long as these three I intend to do this and to open the abdomen as well. Supposing the diagnosis has been made, I think it would be best to perform the operation in Scarpa's triangle first and to open the abdomen afterwards; if the bowel then turned out to be healthy enough the wound might be simply closed; but if there were a patch of gangrene corresponding to the stricture the affected part could be excised or an artificial anus could be made as seemed best under the circumstances. If, on the other hand, the diagnosis were only made during the course of the laparotomy I think it would be wisest to expose the sac in Scarpa's triangle, divide the stricture if necessary, push back the bowel, and then pull it up into the laparotomy wound and examine it. I have now pulled it up into the wound in the same way as in the first two cases on three occasions, and in each the result has been the same—namely, the giving way of the gut at the position of the stricture. In performing the operation from outside there appears to be no danger of wounding the femoral vein if the incision be made sufficiently far internally on to the surface of the pectineus; the femoral sheath and all that it contains is then easily pulled outwards out of the way.

As to which direction is the best for making the section in order to divide the stricture it is difficult to lay down any fixed rule, but I think in the majority of cases it will be safest to make it either directly inwards or forwards and inwards. But should any branch of the obturator artery be injured the double operation will probably render it comparatively easy to secure the bleeding point.

## ROYAL INFIRMARY, LIVERPOOL.

### A CASE OF INTERMITTENT HEMIPLEGIA.

(Under the care of Dr. A. DAVIDSON.)

THE only condition in which transitory recurring attacks of hemiplegia occur is uræmia, as in a case recorded by Boinet[1] in which a man, aged thirty-seven years, suffered from five attacks of uræmia within a short time; in the first two there were only localised convulsions, in the third he had unilateral convulsions followed by hemiplegia, and in the fourth and fifth attacks the hemiplegia occurred alone. In the following case there seems no reason to suspect a renal origin of the hemiplegia. Dr. Davidson's explanation is extremely ingenious, and is no doubt possible; in its favour is the fact that ultimately the hemiplegia became permanent. Should the case finally prove fatal, it is very desirable that the local lesion should be early and carefully examined.

A watchman, aged seventy-three years, was admitted into ward 10 of the Royal Infirmary, Liverpool, under the care of Dr. Davidson on Jan. 18th, 1897, suffering from left hemiplegia. He had worked on a farm till fifteen years previously, when he came to Liverpool. He always enjoyed very good health. On the afternoon of Jan. 18th, after arranging his lamps, he sat down in his sentry-box before the fire. On trying to get up again he found himself unable to do so; so he called for assistance. Two policeman raised him; he was unable to stand alone, but had no loss of consciousness, either then or at any time. An ambulance was procured and he was brought to the hospital at 6·30 P.M. On admission he was quite conscious. His left side was completely paralysed. The pupils were equal and reacted to light; the upper part of the face was partially weakened on the left side; at the lower part the mouth was drawn to the right side, the articulation was imperfect and mumbling, and the tongue was protruded slightly to the left side. The left arm and leg were totally paralysed. Sensation seemed everywhere normal. The pulse was 76 and regular. Two hours after admission he had regained complete power in his face and limbs. He passed urine without trouble. He seemed somewhat excited, but otherwise was quite well. During the night he had four or five hemiplegic attacks similar to the first, each lasting from about fifteen to thirty minutes, all without loss of consciousness. On the morning of the 19th he was free from any sign of paralysis of the face, arm, or leg. The dynamometer showed the grasp of the right hand as 50 and the left as 40. As regards his general condition, he was a hale-looking old man; the tongue was coated, the teeth were very defective, the appetite was good, the pulse was 76 and regular, the arteries were thickened and tortuous, the heart-sounds were normal; the chest was emphysematous, there were slight cough and expectoration, and the urine was normal. At 12.30 P.M. he was again found to have complete paralysis of the face, arm, and leg of the left side. About 1 15 P.M. Dr. Davidson saw him for the first time. He had paralysis of the left side. He could wrinkle the brow on both sides, and close both eyelids together, but he could not close the left eyelid without the right. The left side of the mouth was immobile. Articulation was only slightly affected. The left arm was quite powerless. In the left leg there was only a very slight ability to move the hip and knee. Sensation was normal. While he was still under examination (1.45 P.M.) he drew Dr. Davidson's attention to the gradual return of power in his left hand, and presently the paralysis entirely disappeared. He could now close the left eye independently as well as the right. He was ordered to have a dose of calomel, and eight grains of bromide of potassium three times a day. During the next twenty-four hours several alternations of paralysis and recovery took place, but the remissions by degrees became shorter and slighter. On the night of Jan. 20th the hemiplegia became almost permanent, and remained so till his removal from the hospital by his friends on the 28th.

*Remarks by* Dr. DAVIDSON.—I have seen the patient twice since at his own home, the last time in the beginning of June. He remains in good general health and spirits. The pulse is 72 and regular. The arm is completely paralysed, he can just move the fingers; there is no rigidity and no pain except in the shoulder (rheumatic); the leg and face are rather better. He can lift the leg off the bed. There is some tenderness in the thigh. The tongue is protruded straight. The bladder is normal.

This interesting case is unique so far as my experience and reading go. When I related the history lately at a meeting of the Liverpool Medical Society, one of the members, Dr. Kennan, referred to a case of a man with complete left hemiplegia, which disappeared in a quarter of an hour only to return half an hour later and become permanent. One used to hear of "spasm" of cerebral arteries as being a possible cause of temporary hemiplegia; and one can conceive such an explanation reasonable in cases of uræmia, &c. There was nothing to point to that here, or to embolism from the valves of the heart. The explanation which I gave at the time and still adhere to is that a thrombus in the atheromatous cerebral artery became partially detached, and flapped to and fro in the current of blood, occasionally blocking the artery and occasionally leaving the current free. Or, if it was entirely detached and arrested at the next bifurcation of the artery, it might there sway to and fro like a ball valve, until by continued growth it became fixed and a permanent block of the vessel resulted.

[1] Revue de Médecine, December, 1892.

# Medical Societies.

## OPHTHALMOLOGICAL SOCIETY.

*Filaria Loa.—Sympathetic Ophthalmitis.—Blindness following Blows on the Head.—Exhibition of Cases.*

AN ordinary meeting of this society was held on June 10th, Mr. E. NETTLESHIP, President, being in the chair.

Dr. ARGYLL ROBERTSON gave an account of Filaria Loa in continuation of a description furnished by him two years previously in the same patient, who had returned to Old Calabar and immediately suffered a return of her former symptoms. There were itching behind the eyes and swellings in the arms, as described by Miss Kingsley as almost universal in the Gaboon district. On one occasion at night the patient felt a bite in the flank, and forthwith extracted a portion of a worm. Movement of a similar parasite was felt under the conjunctiva, and twice incisions were made in the knuckles in quest of one felt moving to and from the arm. Sandflies and mosquitos were sent home and examined by Dr. Robertson and Dr. Manson with a view to finding the intermediate form, but without success. Finally, the patient herself returned, invalided with dysentery and anæmia. Nausea and headache occurred while the parasites were moving about, associated with puffy swellings in the arms. All parts of the body were affected, but especially the scalp; as recently as May 15th, 1897, the parasite was perceived moving near the umbilicus, but could not be secured. The blood, excreta, saliva, and nasal mucus were carefully examined for embryos, but without success. Since the former account of this case was given two instances had been described on the continent, and two were at present under the treatment of Dr. Manson.

Mr. RICHARDSON CROSS read a paper on Sympathetic Ophthalmitis, especially in connexion with Mules's operation of evisceration. He cited several instances in which sympathetic irritation, or ophthalmitis, had followed the operation, the proportion being as high, he said, as 13 per cent. One patient in particular was under treatment of the most watchful and sustained kind for seven months before he happily recovered. In another a black mass at one corner of the stump was mistaken for melanotic sarcoma, but on closer examination proved to be an artificial vitreous of silver which had been inserted ten years previously. Many cases certainly appeared to do well for a time, but sooner or later trouble generally supervened.—Mr. ADAMS FROST referred to the fact that there was a committee at present

considering the whole subject of sympathetic ophthalmitis. He thought unsuccessful cases—that is, cases in which sympathetic trouble followed—were often those in which delay had occurred between the original injury and the evisceration, giving time for infection to take place before the operation, or else those in which a fistula persisted leaving the channels open for subsequent infection. He cited twelve cases of four years' standing, and others of eight and nine years, without any after-trouble; in one there developed nystagmus in the sound eye after five years, and this was perfectly represented in the artificial one.—Mr. BICKERTON declared his experience in favour of Mules's operation, and referred to published and collected cases, which showed a percentage of 15 sympathetic ophthalmitis after complete enucleation. (These, however, were shown to be picked and more than ordinarily severe cases collected from the point of view of sympathetic ophthalmitis, and not representing the true proportion of the disease following simple enucleation.) He cited a case in which, though the disturbance occurred, it subsided in about ten days, the eye recovering perfectly.—Mr. SNELL questioned whether sympathetic ophthalmitis occurred as frequently as formerly. His experience led him to believe it did not, and he attributed the improvement to the greater care exercised. Though dealing with many cases of injury he enucleated fewer eyes. He thought the percentage of subsequent sympathetic change indicated in the paper a very high one.—Mr. CRITCHETT, Dr. ARGYLL ROBERTSON, and the PRESIDENT all spoke as to the rarity of sympathetic ophthalmitis after complete enucleation. The President said it was an important question in pathology whether the disease occurred in a less intense form after Mules's operation or not.—Mr. TREACHER COLLINS inquired whether the stumps had been carefully examined after removal to see if evisceration had been complete. (Of this there was no record.)—Mr. RICHARDSON CROSS in reply, said he was sure many cases occurred after Mules's operation even with the strictest antiseptic precautions and often after many years. He preferred enucleation.

Mr. S SNELL read a paper on Blindness following Blows on the Head. Loss of vision was attributed to fracture extending into the foramen rotundum, and was the result generally of injuries to the front of the cranium; but Mr. Snell showed that a similar condition not infrequently resulted from injuries to any part, and cited several instances of blows on different parts of the skull which led to immediate loss of vision in this way.—Mr. BICKERTON spoke of the remote as well as the immediate effects of injury to the head in producing blindness, and referred to the interest connected with cycling accidents and insurance. He mentioned the case of one man who compounded with an insurance company for £50 as compensation for such an accident which later led to complete blindness.—Mr. LINDSAY JOHNSON spoke of the effects of injury to the head in animals followed by blindness, and quoted instances in a crane, a leopard, a bear, and a kangaroo in which he had subsequently observed white atrophy of the disc.—Mr. CRITCHETT mentioned an instance in which a heavy blow above the nose was followed by a reduction of vision to $\frac{2}{3}$, and subsequently to bare perception of light. The case was the subject of a lawsuit. In a case recorded at the time in "Holmes's System of Surgery" the opinion was expressed that loss of vision might follow late from such an injury.—The PRESIDENT discriminated between immediate and remote loss of vision in connexion with head injuries; of the first there could be no doubt, but the second was liable to great difference of opinion and interpretation.

The following cases were shown:—

Mr. J. R. LUNN: Bilateral Facial Palsy, Deafness, and Ulceration of the Corneæ.

Mr. LUNN and Mr. C. D. MARSHALL: Foreign Bodies embedded in the Orbit.

## EDINBURGH OBSTETRICAL SOCIETY.

*Report on Specimen—Culture, Diagnosis, and Serum Treatment of Puerperal Fever—Morphology of the Vaginal Segment of the Genital Tract.*

A meeting of this society was held on June 9th, Dr. ALEXANDER BALLANTYNE, President, being in the chair.

The specimen shown at last meeting by Dr. KYNOCH was reported upon by Dr. HART, Dr. HAULTAIN, and Dr. BARBOUR. They found it very difficult to say whether it was a case of interstitial gestation or of rupture of the pregnant uterus. The clinical history suggested the former, while the situation of the rent, the marked hypertrophy of the uterine wall, and the appearance of the Fallopian tube were in favour of the latter view.

Dr. F. W. N. HAULTAIN read a paper on the Culture, Diagnosis, and Serum Treatment of Puerperal Fever. He gave detailed accounts of three cases. The first was a primipara where help was needed in the labour by the application of low forceps. The puerperium for the first ten days was normal, except that the strength was not regained with the usual rapidity. On the twelfth day she fainted on attempting to rise, and for a fortnight her pulse was quick and there was a rise of temperature to about 100° F. On the twenty-sixth day she first complained of severe pain and swelling in the right thigh, this rapidly passed off; four days afterwards pain occurred in the left thigh and calf, associated with considerable swelling and severe constitutional symptoms; vomiting, sweating, and faintness. Dr. Haultain then saw her. Pelvic examination revealed nothing abnormal except a subinvoluted uterus and a slight swelling in the left broad ligament. The lochia were a little offensive, and a culture was made of the discharge from the interior of the cervical canal; one was also made from the blood drawn from the finger. The former showed a typical pure culture of the Löffler bacillus; 10 c.c. of the diphtheritic antitoxin were injected with marked beneficial results. On two successive days a similar quantity of serum was injected as the temperature again slowly rose. After the third dose the temperature fell to normal and she had an uninterrupted recovery. No case of diphtheria was present in the neighbourhood and the attending practitioner had not seen a case of diphtheria for some weeks previously, but the drains were found to be in an insanitary state. The second case showed marked signs of fever forty-eight hours after the labour. The medical man had used intra-uterine douches, but without benefit. Dr. Haultain saw her on the fifth day. She then showed signs of marked septic infection, the face had a leaden appearance, and there were erythematous patches on the abdomen. A culture of the discharge, similarly taken, was again made, and examination showed a mixed growth of streptococcus and bacillus coli. Anti-streptococcic serum (10 c.c.) was injected, followed by a similar quantity the next day, and 30 c.c. on the third day, but no beneficial effect resulted. The patient developed an intractable diarrhœa; her left knee-joint became extremely painful; pulmonary complications and parotitis set in, and she died on the tenth day. A culture was made from the blood of the finger twenty hours before death, and a pure growth of the bacillus coli was found, which from its reactions was found to be extremely active and virulent. The patient was a coachman's wife and was confined in a room immediately above the stable. The third case had been attended by an unskilled woman, and showed signs of fever on the third day. Dr. Haultain saw her four days afterwards. The vaginal discharge was offensive. The culture showed many streptococci. Anti-streptococcic serum (10 c.c.) was injected; the uterus was washed out with a 1 in 40 carbolic lotion and packed with gauze soaked in the antitoxin. On the next day a further 10 c.c. were injected. The temperature fell on both occasions. No further rise of temperature occurred, though the cervical discharge showed many streptococci. The uterus was washed out on the two succeeding days, and further examination showed the discharge to be free from septic organisms. On reviewing the cases, the first one was evidently a case of intra-uterine diphtheria, and the diagnosis would have been impossible except for the bacteriological examination. The second case showed features of interest in the presence of mixed infection in the culture from the cervix and in the pure culture of the bacillus coli from the blood. Clinically, the violent diarrhœa, the erythematous patches and the absolute inefficiency of the anti-streptococcic serum, were of value. The third case was one of those simple cases of toxin poisoning which usually yield to anti-septic intra-uterine douching, the focus of the disease being thus removed. Still it must be noted that intra-uterine douching had almost no effect until combined with the serum treatment. In all cases of puerperal fever the culture method of diagnosis was much to be preferred to all others. The microscope alone was helpful, but no idea could be obtained of the vitality or virulence of the organisms. In the prognosis, a

mixture of germ infection in a case was of serious import as there was then increased virulence. The treatment of these cases could only be scientifically met by previous culture diagnosis to detect which toxin was the main cause of the disease. For preventive treatment Dr. Haultain strongly urged the necessity of using a douche after labour in every case, and recommended 1 in 40 carbolic lotion, which had been found more efficient in experimental research than sublimate lotion. Dr. HART, Dr. MILNE MURRAY, Dr. BARBOUR, Dr. MCVAIL, Dr. KEPPIE PATERSON, Dr. JARDINE, and others took part in the discussion, and in reply as to the method in use of obtaining cultures, Dr. HAULTAIN stated that he passed a Fergusson's speculum and exposed the cervix. A platinum wire, previously rendered aseptic by heating in a flame, was passed into the cervical canal and some discharge obtained on it. This was then dipped into the agar in a prepared test-tube, the tube at the time being held bottom upwards to prevent dust and germs from falling into it. A plug was inserted and the tube transmitted to the Laboratory of the Royal College of Physicians of Edinburgh.

Dr. BERRY HART then read a paper on the Morphology of the Vaginal Segment of the Genital Tract. The conclusions arrived at were as follows:—1. The human vagina is derived from the ducts of Müller only in its upper two-thirds; the lower third is due to a blending of the upper portion of the uro-genital sinus of the Wolffian ducts. 2. The hymen is formed between the third and fourth months of fœtal life and is due to the development of two bulbs of epithelium from the lower ends of the Wolffian ducts. These coalesce, break down in the centre, and with an upward involution from the uro-genital sinus form the hymeneal opening. 3. The "calliculus seminalis" of man is the analogue of the lower third of the vagina. 4. In the marsupials the lateral canals are the persistent Wolffian element, and the central blind pouch is the Müllerian element.

## ROYAL ACADEMY OF MEDICINE IN IRELAND.

### SECTION OF MEDICINE.

*A Case of Charcot's Disease.*

A MEETING of this section was held on May 21st, the President, Dr. G. F. DUFFEY, being in the chair.

Mr. CONOLLY NORMAN related a case of Charcot's Disease, exhibited the patient, and also exhibited skiagrams showing the condition of the bones.—Professor BENNETT said he thought that the point was the nature of the change in the joints. Was the case to be regarded as a variation of chronic articular rheumatism or a distinct disease? His knowledge of Charcot's disease was very small, he said, having only seen one specimen in Dublin. He had seen Charcot's specimens exhibited in London at the late Congress. The destruction of bone was specially great in Charcot's disease—much greater than in chronic articular rheumatism. He was inclined to think that the disease was essentially the same as chronic articular rheumatism in pathological detail, except that there was a great deal of effusion. As a rule, chronic articular rheumatism was in this country attended with effusion, but not so in France, as proved by the French term applied to the disease—*arthrite sèche*.—Dr. FINNY said that in his limited experience of Charcot's disease he had not found the cases quite the same as Mr. Norman's. The effusion in the joints which he had seen was very much greater, and the backward movement of the leg was one of the remarkable features. He had not himself found in neuritic cases that motility in the joints to which Mr. Norman had referred. He was very much in a difficulty as to the disease being tabetic, because of the mental condition of the patient, and it was not easy to test for knee-jerk. If it was a case of tabes it was interesting to note that the patient was unaffected in the upper limbs; of course, the disease might be limited to the lower extremities for a long time, but there seemed to be none of the other occasional symptoms. The case was one which, he was sure, must remain for a certain time in an unknown category.—Mr NORMAN, in reply, said that everyone was familiar with the doctrine that Charcot's disease was merely a variety of chronic articular rheumatism. He thought, perhaps, that a truer view to take was that some nervous disorder with which they were at present unfamiliar was associated with chronic articular-rheumatism. With regard to the absence of backward displacement to which Dr. Finny had referred, he thought it possible that the condition of disturbance in the joints had been arrested before the customary destruction of the posterior ligaments. He could not say how long the condition had lasted, save that it did not exist in 1890, but did in 1896, and according to the patient's own statement the disease would have commenced in 1895. The only sign of tabes which she exhibited—excepting the condition of her legs—was the Argyll-Robertson phenomenon. There was a great deal of anæsthesia still in her legs, which, of course, was in favour of alcoholic neuritis. He thought it likely that the condition was still undescribed.

Dr. KNOTT read a paper on a Fatal Case of Alcoholism.

# Reviews and Notices of Books.

*An American Text-book of Physiology.* Edited by W. H. HOWELL, M.D., Professor of Physiology in the Johns Hopkins University, Baltimore. Philadelphia: W. B. Saunders. 1896. Pp. 1052.

IT is almost a common-place to remark that physiology has nowadays grown to such an extent that no one man can be perfectly conversant with all its branches. Most text-books written by a single individual are distinguished by special excellence in one particular branch of the subject. The present volume constitutes practically a new departure in physiological text-books on the lines which have already proved successful in medicine and surgery in the "Systems" which have appeared on those subjects. It is written by the leading physiologists of America, each undertaking that branch with which he has special acquaintance. The merits and disadvantages of this plan have been discussed often enough; the results in this case are excellent, and Professor Howell is to be congratulated on the editorship of a most valuable and comprehensive series of monographs. The wise encouragement afforded to pure science in America is bearing fruit in many ways, and in none more conspicuously than in the excellent text-books which from time to time appear in that country. This book professes to be an elementary text-book on physiology; its somewhat alarming bulk may well terrify the student, but its value as a work of reference for the physician or pathologist is very great.

Professor Howell himself contributes a thoughtful and deeply interesting introductory chapter, in which, while admitting the physico-chemical nature of the majority of vital processes, he shows himself fully alive to the difficulties of a purely material explanation of the phenomena of life. From the same pen are the articles on Secretion, on the Chemistry of Digestion and Nutrition, on the Movements of the Alimentary Canal, Bladder, and Ureter, and on the Blood and Lymph, all of which show a deep and thorough acquaintance with the subjects in question and a remarkably lucid power of exposition. Dr. Warren P. Lombard, of Michigan, writes on the General Physiology of Muscle and Nerve and on the Physiology of the Special Muscular Mechanisms—articles which are of great value and clearness. The subject of the circulation is admirably dealt with by Professor Curtis, of Columbia University, and Dr. Porter, of Harvard. Professor Reichert, of Pennsylvania, treats of Respiration and Animal Heat in thorough and masterly articles. Professor Donaldson, of Chicago, one of the greatest authorities on neurology, writes on the Physiology of the Central Nervous System in a peculiarly admirable article, which should form for many years a standard contribution to the subject. Vision is dealt with by Professor Bowditch, of Harvard, and the other special senses by Professor Sewall, of Denver. Dr. Lee, of Columbia University, treats of Reproduction, while Professor Graham Lusk, of Yale, contributes the section on Animal Chemistry.

The book is excellently printed and well indexed. It is impossible, in the limits of a review of this kind, to discuss the several sections of so large and important a work in adequate detail, and we have preferred not to attempt it, though we have tested the book by daily use. We can commend it most heartily, not only to all students of physiology, but to every physician and pathologist as a valuable and comprehensive work of reference, written by men who are of eminent authority in their own special subjects.

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*Twentieth Century Practice: an International Cyclopædia of Modern Medical Science.* Edited by THOMAS L. STEDMAN, M.D., New York City. Vol. VII. Diseases of the Respiratory Organs and Blood, and Functional Sexual Disorders. London: Sampson Low, Marston, and Co. 1896.

THIS is a uniformly good volume. Every article is full and clear and practical. No better idea could be obtained of the deservedly high position taken by American writers in medicine than by reading the seven American contributions to this volume. Dr. Herbert Whitney, of Denver, devotes 126 pages to a thorough account of Diseases of the Pleura. He is particularly happy in his description of the mechanical conditions at play in pleural effusion and pneumothorax. In discussing displacement of the heart and displacement of the mediastinum in comparatively slight effusions he writes: "The mediastinum, too, cannot remain unaffected. Usually under the equal negative pressure of both pleural cavities, it is now subjected to an increased relative pressure upon the side containing fluid, and much more slightly in the opposite direction. This fact is of vital importance as explaining the early displacement of the heart which may occur in pleuritic effusion. Certain authors (Powell, Garland) have laid great stress upon the assertion that the heart is not pushed towards the well side by the accumulating fluid, but drawn over by the opposite lung. The point does not appear to be well taken. The mechanism of the displacement is clear; and since it is quite evident that the increased unilateral pressure would compel a movement of the mediastinum independently of the well lung, it can hardly be said to be drawn over by the latter." In contrasting the mobility of the fluid in pneumothorax with its fixity in a case of pleural effusion Dr. Whitney sums up thus: "(1) That very large effusions are immoveable; (2) that moderate effusions do show a slight change after a lapse of several minutes; and (3) that the extent of this change rarely amounts to more than a single intercostal space. As to small effusions statements are meagre. ..... I myself have never been able to detect the slightest change in the position of a small effusion." Dr. Whitney's account of vocal fremitus in pleural effusion is not quite satisfactory. Among the many pitfalls in the diagnosis of pleural effusion, the absence of tactile vocal fremitus remains perhaps the most reliable of guides. There are a few cases where with large effusions tactile vocal fremitus is not lost, but in an overwhelming majority it is absent. "Few signs of effusion are more valuable than absence of tactile vocal fremitus. ..... Still, it is not infallible. ..... In a large effusion fremitus is usually considerably increased over the lung because of its solidified condition" (p. 28). This last sentence is certainly at variance with facts. The various forms of empyema and their treatment could not be better summarised. Dr. Whitney states that pulsating pleurisy is "found only when the empyema is upon the left side." This is, of course, true of the great majority of cases, but there are some exceptions.

Dr. Franz Riegel, of Giessen, amplifies and brings up to date his article on Bronchial Asthma in von Ziemssen's "Cyclopædia of the Practice of Medicine."[1] The most interesting pages are those in which he discusses the method of formation of the Curschmann spirals, tracing them to two factors—(1) the viscidity of mucus; and (2) the "corkscrew-like course" of the fine bronchial tubes as demonstrated by Hoffmann. He adopts Gollasch's theory "that Leyden's crystals are crystalline derivatives of the eosinophile cells," and quotes certain facts which give support to this view. The increase in the number of eosinophile cells during an attack of asthma which has been asserted to exist by some observers is not confirmed by all who have investigated this question. Einthoven's experiments are held by the author to prove definitely that the theory of spasm of the bronchial muscles is correct. Dr. Riegel gives a well-balanced account of the treatment of asthmatic patients. Dr. Fletcher Ingals, of Chicago, contributes a good short chapter on Hay Fever, the greater part of which is devoted to treatment. He illustrates by some diagrams the good effects obtained by cauterisation of the nasal mucous membrane between the attacks. Only eight and a half pages are given to Dr. Main for Diseases of the Mediastinum—obviously a very inadequate space.

The longest and most important chapter in this volume is that on Diseases of the Blood, by Dr. Alfred Stengel, of Philadelphia. It extends over 300 pages and is admirable from beginning to end. Ample descriptions are given of all the methods best suited for thorough examination of the blood, and full accounts of the different abnormal conditions. The use of iron in chlorosis and the method of its action afford a constant source of discussion. Dr. Stengel sharply criticises Bunge's theory "that the iron administered to chlorotic patients proves efficacious only by entering into combination with the sulphuretted hydrogen developed in excess by intestinal putrefaction, and thus permits the ferruginous nucleo-albumin of the food to be absorbed." He brings forward much evidence, some of it new, to show conclusively that Bunge's hypothesis is only very partially if at all true. It has been found "that the administration of sulphide of iron itself proves beneficial in chlorosis; that substances quite as prone to enter into combination with sulphur do not exercise the same influence, while other substances, notably arsenic, and other measures of treatment having no influence upon processes of intestinal putrefaction, do have a beneficial effect. Finally, experimental investigation has shown that there is no evidence at all of intestinal putrefaction in many cases of chlorosis." Dr. Stengel falls back on the somewhat vague but probably true view that "iron acts as a direct stimulant to the hæmopoietic organs" (p. 356). The more unusual "diseases of the blood" are very well described. Dr. Jules Comby, of Paris, has a good article on Rickets. The chapters on the disorders of Menstruation by Dr. Cushing and Dr. Cumston of Boston, and on the Functional Disorders of the Male Sexual Organs by Dr. Charles Allen, of New York, are full of facts and common sense. The last chapter, by Dr. French, of Cincinnati, on the Examination of the Urine, extends over 120 pages and is very thorough. In describing the occurrence of the bacillus tuberculosis in urine some mention should be made of the liability to error produced by the presence of the smegma bacillus, the staining reactions of which are so similar.

The bibliographies throughout are excellent. The volume does great credit to all concerned.

[1] New York edition, vol. iv., 1876.

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*The Procedure in Accident Inquiries and Investigations According to the Law of Scotland.* By H. H. BROWN. Edinburgh: T. and T. Clark. 1897. Price 7*s.* 6*d.*

IN this book an endeavour is made to bring into one view the various enactments relating to the subject mentioned in the title. A large number of Acts of Parliament deal, some with one part, some with another, of the matter in question, and Mr. Brown has performed a very useful service to his brother officials and other persons concerned with the

administration of the law by collecting these various statutes and grouping them in such a way as to render them mutually illustrative. The book deals with the law of Scotland only; and it is much to be desired that some competent person may supplement the present work by a similar *résumé* of the law and formulas applicable to England and Ireland. Mr. Brown points out with much force that when an accident happens with the suddenness characteristic of such events any loss of time in instituting the necessary investigation is apt to be serious. A book such as he has produced is calculated to have a marked effect in minimising such loss of time; for the various officials who are called upon to conduct such investigations depend much upon one another for notice of material facts, and whatever tends to facilitate the giving of such notices must serve in equal measure to accelerate the progress of investigation.

A mere glance at Mr. Brown's book suffices to show that the course of legislation has resulted in extremely complicated machinery. It is by no means a rule that a scheme which looks complicated on paper must prove unmanageable in working, and having regard to the great variety of the circumstances in which industrial accidents occur we are not disposed to argue for any strictly unified system of investigation. The matter of prime importance is that the inquiry should be entrusted to some competent person on the spot, and this condition can only be satisfied by taking advantage of existing machinery in a manner that is quite incompatible with unity of plan. But this condition makes the need of a text-book such as this volume supplies quite imperative.

The plan of the book is to split up the subject into departments, and accordingly separate chapters are devoted to accidents in mines, in factories, on railways, on board ship, from boiler explosions, from explosive substances, and so forth. This plan is excellent, and the various chapters, being written by a practical man and copiously illustrated with official and other necessary forms, are eminently helpful. Altogether it is a very useful book which may be confidently recommended to procurators fiscal, factory inspectors, certifying surgeons, and others concerned in the investigation of industrial accidents.

## LIBRARY TABLE.

*Diagnostik der Inneren Krankheiten auf Grund der Heutigen Untersuchungsmethoden.* Ein Lehrbuch für Aerzte und Studirende. Von Dr. OSWALD VIERORDT. Fünfte verbesserte und vermehrte Auflage. Leipzig: Verlag von F. C. W. Vogel. 1897. Preis 14 Mk. (*Diagnosis of Internal Diseases based on Modern Methods of Examination.* A Text-book for Practitioners and Students. By Dr. OSWALD VIERORDT. Fifth edition, improved and enlarged. Leipzig: F. C. W. Vogel. 1897. Price 14s.)—This is a standard work. Its author is the Professor of Medicine at the University of Heidelberg, and the popularity of the text-book is evident from the fact that five editions have been called for within nine years. The systematic manner in which the subjects are treated and the clearness with which the signs and their import are described sufficiently account for this appreciation. That it has been brought up to date is evident from the inclusion in it of details concerning the serum test for typhoid fever, which is admitted by the author to be of very high value. A noteworthy feature of the book is the section devoted to the diagnosis of diseases of the nervous system, introduced by remarks on the topography of the brain, the paths of motion, sensation, and the special senses, and the facts bearing on the locality of lesions. The various disorders are described under the heads of psychical disturbance, sensory and then motor derangements, muscular atrophies, spasm, and contractures. The reflexes are next considered, and then the electrical examination of paralysed muscles. There is a very detailed consideration of aphasic conditions, and a description of the derangements of the various systems in nervous disease. More space might with advantage have been devoted to the use of the ophthalmoscope, which is relegated to an appendix, together with laryngoscopy, rhinoscopy, and otoscopy. The work in its earlier edition was translated into English, and it certainly ranks well in the large and ever-increasing series of books on diagnosis.

*Vorlesungen über Allgemeine Pathologie.* Von Dr. M. LÖWIT. Erstes Heft. Die Lehre vom Fieber. Jena: Verlag von Gustav Fischer. 1897. Preis 5 mk. (*Lectures on General Pathology.* By Dr. M. LÖWIT. Part I. The Doctrine of Fever. Jena: G. Fischer. 1897. Price 5*s*.)—Whoever undertakes to discuss the subject of fever has a formidable task, for there are few subjects in pathology which have received so much attention, or upon which, in spite of this, there remains so much that is uncertain. Dr. Löwit, the Professor of General and Experimental Pathology at the University of Innsbruck, is well qualified for this work, and in this first instalment of his lectures enters with commendable zeal upon his labours. The reader of these thirteen lectures will find them teeming with information and a wide knowledge of the researches of those who have contributed to the subject. It is clearly shown that the conception of fever means much more than mere increase in body temperature, the disturbance of the heat mechanism being only one, if an essential one, of the processes initiated by the causes of fever. The lectures pass from the consideration of the phenomena of animal heat, of the temperature of the body and its regulation, to the consideration of fever and febrile temperatures, the causes of fever, its stages, the metabolic changes associated with it, the changes in the blood, the disturbances in circulation, respiration and digestion, and the anatomical lesions to which it gives rise. The monograph is dedicated to the memory of Cohnheim, whose masterly volume of lectures form, Professor Löwit says, a milestone in pathological science.

## JOURNALS AND REVIEWS.

THE May number of the *Veterinary Journal and Annals of Comparative Pathology* contains an essay which partakes rather of the nature of a class lecture than an essay read before the Edinburgh Veterinary Medical Society, on Laryngismus Paralyticus of the Horse. The reports of societies occupy a very large proportion of this number of the journal. A continuation of the experimental and clinical study of the Aspergillus fumigatus and a few extracts and notes make up a less interesting number than usual. The June number contains a note on Cashaw Poisoning by G. Randolph Abrahms, a form of poisoning induced in horses, mules, and cattle by one of the acacias, the Prosopis juliflora, found in Central America, from Mexico to Guayaquil. Then follow notes, editorial articles, and extracts from foreign journals, with notes and news.

In the *Veterinarian* for May are a number of original papers, amongst which the most interesting is an investigation into the Cause of Louping-ill, by Mr. R. Greig Smith, and Mr. Alexander Meek, the Durham College of Science, Newcastle-on-Tyne. The authors do not attempt to go into the history of the subject, but they approach it from the point of view that louping-ill is the result of some infection with pathogenic bacteria through the agency of the sheep-tick. The experiments as given by the authors are as yet very incomplete. The organisms that are described appear to be scarcely more pathogenic than those met with in putrefying substances; the

authors, however, announce that they intend to return to this question in the coming season and to submit the problem to the test of a practical field experiment. Veterinary-Captain R. W. Burke contributes a paper on Kamri or Paraplegia, or partial paralysis, a disease usually accompanied by a partial loss of sensation which may be due, the author considers, to cold, dietetic causes, and to surgical conditions, in the latter case being reflex in character. Veterinary-Captain Burke also contributes a postscript on Surra, in which he maintains, against Dr. Lingard, that there is practically no difference between the surra of horses and cattle and malarial fever in man. Mr. John A. W. Dollar contributes a *résumé* on Roentgen Photography. The Month's Progress contains a number of abstracts of interesting papers, whilst the Proceedings of Societies for this month occupy a space of 134 pages, and some of the discussions are of considerable interest. The June number contains a note on Pseudanthrax in Meat Meals, by Mr. R. Greig Smith, and Mr. J. Arthur Thomson contributes a short paper on the Artificial Insemination of Mammals and one on Rut or Œstrus. The other original articles are one on Swine Fever and its Prevention, by Mr. George Green, and the Prevention and Suppression of Contagious Diseases of Animals, by the late Professor Walley, in which he deals specially with pleuro-pneumonia and anthrax, and then describes the specific eruptive fevers and infective granulomata as diseases disseminated by contagion and infection, taking as his examples of the first cattle plague, variola, foot and mouth disease, and swine fever, and of the second glanders, farcy, and tuberculosis. Professor Walley's conclusions will be of interest from the point of view of those who are engaged in dealing with cattle. A number of Clinical Cases and the Month's Progress, including a good abstract of Dr. Calmette's paper on Snake Poison and Immunity, which appeared in a recent number of the *Annales de l'Institut Pasteur*, are recorded. A complete list of the questions set at the May examination for the diploma of the R.C.V.S. is given; also an account of the meetings of the various veterinary societies.

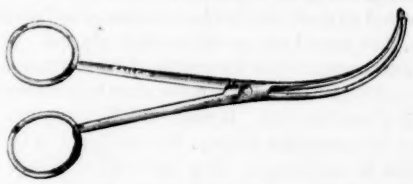
*The Ophthalmic Record*. Vol. VI. Edited by CASEY A. WOOD, M.D., of Chicago, and many Leading Ophthalmologists of Nashville, Philadelphia, New York, Milwaukee, San Francisco, Omaha, and other American cities. Clark-street, Chicago: L. D. Pierce. Price, annual subscription, 14*s*. 1897.—We have received several numbers of this journal for the present year. Each number contains original articles, reports of the meetings of societies, reviews, editorial comments, and correspondence. Amongst the more important original articles may be mentioned one by Dr. Edward Jackson on the Location of Opacities near the Posterior Pole of the Lens by means of the Corneal Reflex, in which advantage is taken of the relative rapidity of movement of the opacity across the pupil as compared with that of the corneal reflex, which of course represents one of the radii of the corneal curvature. Another is written by Dr. Louis Lautenbach, of Philadelphia, discussing the influence of nasal disease in modifying the quantity and axis of corneal astigmatism. He thinks this is to be explained by the intimate relation existing between the blood-vessels of the nasal cavities and those of the eye and its appendages, especially their anastomoses, the direct mucous connexion of these organs through the ductus nasalis, and their intimate nervous relations. Another article by Dr. Francis Valk, of New York, deals with the curvature of the cornea in reference to the refractive condition of the dioptric apparatus in the two principal meridians, and Dr. Robert Sattler, of Cincinnati, contributes a good paper, with illustrations, on Sarcoma of the Orbit. In addition to these and other original articles there is a well-executed translation of Dr. Th. Gelpke's article entitled "Study of an Epidemic of Acute Purulent Ophthalmia and of its Cause, the Bacillus Septatus." The journal is well got up and reflects credit on the editors and publishers.

*Annals of Ophthalmology*. Edited by Dr. CASEY A. WOOD, Dr. CHARLES MAY, Dr. WENDELL REBER, Dr. H. V. WÜRDEMANN, and Dr. ALBERT HALE. Vol. VI., No. 1. January, 1897 St. Louis, Mo: Parker. Price, $1.25 = 5*s*.—This part contains a considerable number of original articles and presents a good feature in giving abstracts of current ophthalmological literature in American, English, Spanish, German, French, and Italian journals, as well as reports of societies. Amongst the more interesting articles is one by Dr. George M. Gould, of Philadelphia, recommending the use of test-cards with black background and white letters. Dr. F. C. Hotz, of Chicago, has adopted skin-grafting in cases of pterygium when the wound is large with good results in four cases. Dr. Alex. W. Stirling, of Atlanta, Georgia, continues an essay on Glaucoma, chiefly dealing with the character of the cupping of the disc observed in this disease and the consideration of the various theories that have been advanced in regard to its etiology. Dr. Alexander Duane, of New York, supplies a reprint of his prize essay on a New Classification of the Motor Anomalies of the Eye based on Physiological Principles. Lastly, Dr. F. W. Marlow, of Syracuse, gives Clinical Reports of Central Lesions with Eye Symptoms, which are interesting.

# New Inventions.

## IMPROVED TRACHEA FORCEPS.

THE accompanying illustration represents a pair of curved trachea forceps designed by M. D. Harmer. They will be found to be of much use in removing such material as membrane from a trachea without getting into the operator's light. They will also be useful in removing foreign bodies



from the ears, nose, and throat, and also may be used as sinus forceps in those cases where the ordinary straight forceps are found to fail. Messrs. W. H. Bailey and Son, of Oxford-street, W., are the makers.

A. M. C. GEDDES, M.B., C.M. Edin.
Nurses' Home, Howard's-road, Plaistow, E.

## IMPROVED CLIP FOR PERFORMING CIRCUMCISION.

FOR performing the operation of circumcision in Bombay the Mussulman operators use a piece of split bamboo and a sharp razor; the prepuce being pulled through the slit, it is rapidly cut off with the razor, and the results are very good. Messrs. Matthews Brothers (10, New Oxford-street, W.), have made for me a somewhat similar clip or shield, which, being of metal and easily adjusted, is, I find, superior to the above-mentioned simple contrivance, and it is easily cleaned. It is placed in front of the glans penis in a slightly sloping direction, by which too much loss of skin from the under part of the penis is prevented.

W. K. HATCH, F.R.C.S. Eng.,
Senior Surgeon to the Jamsetjee Jejeebhoy Hospital, Bombay

# THE LANCET.

*LONDON: SATURDAY, JUNE 26, 1897.*

THOSE of us who were fortunate enough to witness the memorable ceremony of Tuesday last—and it is believed that upwards of one million and a half of persons enjoyed the privilege—saw a sight of unparalleled importance as well as of splendour that it will be hard in the future to outdo. The appearance of the great procession, its length, its order, its wonderful wealth of colour, the historic character of its constituency, its precision of march, and the stirring melody of its accompaniment, have all received due descriptive justice from the great journals of the day, so that to attempt to add to the fulness of phraseology and the completeness of description with which the pageant of the Diamond Jubilee has already been vividly brought before the notice of the world would be as unnecessary as, in our belief, it would be impossible. But while we know that those of our readers who were not actual spectators have since become so familiar with the story that they, as much as the more fortunate section of the community who saw and heard, do not require from us any details of the procession, we think it well to draw just one simple lesson from the day's proceedings, because we believe very implicitly that it is almost impossible to overrate the influence that the QUEEN'S magnificent journey through her great capital may have upon the community.

Beyond all doubt the Jubilee procession opened the people's eyes, their mental eyes as well as their physical. To many the convincing proofs of the wealth, of the power, and of the far-reaching influence of our nation must have appealed with all the force of novelty. It was a veritable revelation. They knew their geography perhaps, but certainly they had never heeded its significance. They had read of distant dependencies and of colonial appointments, but all these things were merely words to them. Of that great entity the Empire they had the most shadowy notions. Therefore, when the splendid Indian soldiers were seen in procession with the flower of the British army, when the Canadian and Rhodesian horse mingled with the Artillery from Trinidad and Jamaica, with the Sikhs from Malay, the Dyaks from Borneo, the Hong-Kong Chinese Police, and the Haussas from the Gold Coast, an object lesson of the most clear significance was at once supplied where it was most wanted. No reams of fine writing on the abstract beauties of unity and the strength thereof, no amount of argument upon the practical advantage of free trade between mother and daughter, no splendid stories of pioneering achievements, no architectural palaces for the collecting and labelling of produce or the housing of archives, and not even the magical swing and impassioned patriotism of Mr. RUDYARD KIPLING'S verse have separately or together furnished such a justification of the necessity of Imperial Federation as was furnished by the Jubilee procession. A justifiable, reasonable pride fills the breast of every man to-day beneath Queen VICTORIA'S sway at the thought that he belongs to so great and so successful a Crown and serves so great and so good a Mistress. And the wide prevalence of such a feeling is true Imperial Federation, a feeling which has recently been glowing with unusual fervour, but which is now flaming. Upon this feeling those capable of reading the times rely not only to produce results that will be pleasing to our patriotism, but results that will be for the lasting good of the world at large.

When all round either hemisphere the British nation joins hands and, from Premier in Downing-street to policeman in Hong-Kong, from Commander-in-Chief in Pall-mall to Haussa on the Gold Coast, works on a noble and liberal scheme for order, justice, and goodness, then will the real sweets of Imperial Federation be tasted; and he would be a bold man who could set any exact limit to the stride that was taken last Tuesday afternoon towards so noble a consummation.

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THE President of the General Medical Council and certain of his colleagues are expecting shortly to have an interview with the President of the Local Government Board on the subject of the acceptance of loose information of the cause of death supplied by unqualified practitioners of all sorts. An inquest is reported in the *Cornish Telegraph* which illustrates in a very striking manner the evils of unqualified practice, the audacity of unqualified practitioners, and the appreciation by jurymen of a registrar who has the good sense to decline a certificate of death from such persons. The coroner was Mr. E. L. CARLYON. The subject of the inquest was the death of Mrs. MARY MARTIN, and the unqualified practitioner who took upon himself the responsibility of attending her and certifying the cause of her death was Mr. SAMPSON TAYLOR ROWE, of Redruth, chemist and surgeon dentist, who had no medical degree, but appended the letters Ph.D. to his name, and explained that the title was got from America, and that "it was a scientific degree." The case is further interesting at this moment as showing how effective little pretences are in the case of the less intelligent classes of the community to convey the impression of full qualification and that over a very lengthened period of years.

We may state the facts elicited a little more fully. MARY MARTIN, aged seventy-two years, a delicate woman, was taken ill on a Tuesday, and died on the following day. She was attended in the meantime by Mr. ROWE, who gave the following certificate:—

"Redruth, June 2, 1897. This is to certify that Mary Martin, aged 72 last birthday, died on the 2nd instant from paralysis of the brain (third attack); duration of disease six months.—S. T. ROWE, Ph.D. and C., Registered Surgeon-Dentist and Chemist."

The sister of the deceased said she was always under the impression that Mr. ROWE was a medical man, and had complete faith in him, he having supplied medicine to her for fifty years. When we consider how well satisfied Mr. ROWE was with himself, and what good use he made of certain capital letters of the alphabet after his name, we may cease to wonder that he imposed on the unlearned. Let us analyse Mr. ROWE'S credentials and sit at his

feet to learn how a man with no medical qualification can practise medicine and certify deaths for half a century and how, when belatedly brought to book, he shows himself equal to the occasion and full of resource. His reply to one of the many pertinent questions of the coroner is interesting: "*Coroner:* I think you wrote that certificate to deceive. *Mr. Rowe:* I did not. I have been accustomed for fifty years to give the cause of death as an ordinary individual with my name affixed, and it was never questioned until recently. In consequence of its being questioned I have arranged to get a properly qualified man as my assistant." Is it possible that in Cornwall there is any member of the profession so unacquainted with the rules and the judgments of the General Medical Council as to think that he can become assistant to Mr. SAMPSON TAYLOR ROWE and retain his place on the Medical Register? We fear such a thing is not impossible. Only at the last meeting of the General Medical Council a London practitioner was on his defence before the Council for covering an unqualified assistant, and he declared that he had never seen the advertisements of the Council's views and that he was not aware that there was anything illegal in what he was doing. The practitioner was eighty years of age and did not seem to realise the new conditions of medical practice. But we should advise any gentleman with whom Mr. ROWE may have arranged an assistantship not to rely on any similar leniency on the part of the Council. All men are not eighty years old, and even the patience of the General Medical Council has its limits. But we are concerned to-day not with Mr. ROWE'S future qualified assistant, but with the devices with which he has continued for fifty years to convey to the public the impression that he was a medical man. He is indignant at the idea of the coroner that he meant to deceive. He says he did not give a medical certificate. He cannot deny that he wrote a certificate in such a form and with such a parade of letters as were meant to resemble a medical certificate. No thanks to him that it d d not run and that the bogus character of his credentials and his claim to pose as a medical man have now been fully exposed. The phalanx of letters was so arranged as to suggest validity and respectability in the certificate—"Ph.D. and C., registered surgeon dentist and chemist." Nor can we congratulate Mr. ROWE on the light which he has thrown on the letters Ph.D. and the way he came by such a title. When asked if his degree was granted after examination he replied to the questioner, "That is my business, not yours." He afterwards admitted that it was from the University of Philadelphia, which has an unpleasant reputation for bogus degrees. The coroner made some important observations on the disadvantages to the public of such irregular practitioners. They may attend infectious cases, but are not compelled to notify, and do not incur the penalty for non-notification. The law allowed, he pointed out, deaths to be registered on such information as in this case, though they were registered as not certified. It was impossible to say whether the treatment was right. The jury found death to be due to natural causes and desired the coroner to severely censure Mr. ROWE. It will be interesting to see the further development of Mr. ROWE'S practice in connexion with the "properly qualified man he has engaged to get." But, apart from his arrangements, it is high time that the whole system of unqualified practice in all its forms was more systematically studied by the General Medical Council. We are aware that it has no power over such gentlemen as Mr. ROWE, whatever it may have over his "properly qualified" assistant, but it has power and it is its duty to represent to Government the unsatisfactory state of the law, and in the interest of the public to demand an amendment.

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AT the approaching election of members of the Council of the Royal College of Surgeons of England, the five vacancies which at present exist will be filled, and it behoves all Fellows of the College to consider carefully in what manner they will exercise their voting powers on July 1st. The duties of the Council are many and diverse; to their care is entrusted the maintenance of the valuable library, and the unrivalled museum of comparative anatomy and pathology, the foundations of which we owe to the skill and enthusiasm of JOHN HUNTER; they have to safeguard the dignity of the profession by seeing that none of the Fellows or Members of the College transgress the wholesome rules of medical etiquette; all these are onerous duties, but by far the most important of the many functions of the Council is the very large and important influence the College has on medical education. On the curriculum which they lay down and on the standard of the examinations they conduct depend the surgical training and knowledge of a very large proportion of the medical profession of this country. In exercising, therefore, his right of voting for members of the Council it is the duty of every Fellow to bear in mind that by his individual vote he may make or mar the surgical training of many future medical practitioners. It is not enough that a member of the Council should be a distinguished surgeon; he should be practically acquainted with the medical education of the present day or at least be familiar with its aims and requirements. For this to be possible it is not absolutely essential that he should be connected with a medical school, though it is obvious that the candidates with the desired qualifications are likely to belong to medical schools. Other things being equal it is on the whole desirable that members of the Council should not at the same time be examiners at the College, but a practical difficulty arises: the Council chooses the best men for the posts of examiners, and there can be small reason for surprise that it often happens that the same surgeons are the most suitable candidates for seats on the Council.

At the present election there are five vacancies to be filled; three of these have been created by the retirement "in rotation" of Mr. CHRISTOPHER HEATH, Mr. HOWSE, and Dr. WARD COUSINS. Mr. HEATH does not seek re-election; he has already served two terms, and has been elected president twice. For the five vacant places there are no less than eleven candidates. Three of the candidates are provincial Fellows, namely, Mr. BENNETT MAY, Mr. GEORGE JACKSON, and Dr. WARD COUSINS; and there seems to be a general desire, at least among Fellows residing in th country, that provincial Fellows should be well represented on the Council. We may express the hope that Mr. BENNETT MAY may

be elected. The eight remaining candidates are Mr. HOWSE, Sir WILLIAM DALBY, Mr. CLEMENT LUCAS, Mr. EDMUND OWEN, Mr. ANDREW CLARK, Mr. RICKMAN GODLEE, Mr. J. H. MORGAN, and Mr. WATSON CHEYNE. Mr. HOWSE has served one term and has done his work so well that it would be distinctly a loss to the College if he were not re-elected. Mr. CLEMENT LUCAS is a colleague of Mr. HOWSE at Guy's Hospital, and his election would increase to four the number of members of the Council derived from that school. This may not be an ideal arrangement, but it cannot be disputed that Mr. LUCAS would decidedly prove a gain to the Council. Mr. RICKMAN GODLEE is a well-known surgeon attached to University College Hospital, and as one of the representatives from that hospital—namely, Mr. HEATH—is retiring from the Council, Mr. GODLEE might very fitly replace him. Mr. EDMUND OWEN is the senior surgeon to St. Mary's Hospital, which is at present unrepresented on the Council; we are inclined to think that Mr. OWEN'S sympathies are rather too conservative for him to assist adequately in the necessary progress of the College; but we do not doubt that, if elected, he would do his best to maintain the high character of the examinations. Mr. J. H. MORGAN has for a long time been an earnest advocate of necessary reforms in the College. He was one of the founders of the Association of Fellows, and was one of its honorary secretaries in the early and more fruitful years of its existence. He is well acquainted with the problems of medical education from his position at Charing-cross Hospital, and would, we feel sure, be a decided acquisition to the Council. Mr. WATSON CHEYNE is well known to a large section of the medical public, and at the present time King's College Hospital has no representative. Mr. ANDREW CLARK is hardly so suitable a candidate as several of the others, though he has had much to do with medical education at the Middlesex Hospital. Sir WILLIAM DALBY has done much good work, but perhaps he is not now quite in touch with our present day questions of education; and we may say in conclusion that in our opinion the candidates who would most satisfactorily assist in the work of the Council—surgical, educational, and ethical—are Mr. HOWSE, Mr. LUCAS, Mr. GODLEE, Mr. BENNETT MAY, and Mr. MORGAN.

# Annotations.

"Ne quid nimis."

## THE DIAMOND JUBILEE HONOURS.

THE medical profession has no reason to consider that it has been left in the cold in the distribution of Diamond Jubilee Honours. It is true that the greater part of the honours bestowed upon medicine were foregone conclusions, that is, they are either promotions in the orders reserved for official service or recognitions of high official place, but this is the character of the whole list, and has doubtless been deliberately maintained as the only possible course to be pursued on an occasion where so many diverse claims might have been considered from a sentimental point of view. Dr. Wilks, the President of the Royal College of Physicians of London, receives the baronetcy which his eminent services to science and to the practical philanthropy of Guy's Hospital so well merit. Sir William MacCormac, the President of the Royal College of Surgeons of England, can also doubly justify his baronetcy, being a sound surgeon as well as a good organiser and a dignified official. Mr. Thomas Smith's baronetcy will be exceedingly popular in the profession, where his operative skill is as widely recognised as are his amiable qualities. No harder working or more brilliant exponent of modern medicine, of medicine as an exact science rather than as an interesting art, could have been selected for knighthood than Dr. W. R. Gowers. If only all those members of the profession who have delighted in his treatises should recognise the honour given to the author, Sir William Gowers will receive as many congratulations as anyone in the list. There is a fitness about the bestowal of a knighthood upon Dr. Felix Semon, as he is a skilful exponent of a branch of medicine which has been born and has reached its present sturdy size entirely during the Victorian era. We are glad to see in the lists of new knights the names also of Dr. George F. Duffey, the President of the Royal College of Physicians of Ireland, and Mr. William Thomson, the head of the corresponding surgical corporation. Among the promotions in, or selections for, the Order of the Bath, we notice several well-known names—notably, Dr. Richard Thorne Thorne, who becomes K.C.B. (Civil); Inspector-Generals of Hospitals H. F. Norbury, J. J. L. Donnet, and H Macdonnel, and Surgeon-General C. A. Gordon: K.C.B. (Military); Dr. T. Grimshaw, Registrar-General of Ireland; Dr. David Nicolson, one of the Lord Chancellor's Visitors in Lunacy; Surgeon-Major-General J. Jameson, Director-General of the Army Medical Department, and Mr. Hugh Adcock, Consulting Physician to H I.M. the Shah of Persia: C.B. (Civil); and Surgeon-Major-General C. Sibthorpe and Brigade-Surgeon-Lieutenant-Colonel G. W. McNalty: C.B. (Military). Surgeon-Major-Generals W. R. Hooper, President of the Medical Board, India Office, and J. Cleghorn, Director-General of the Indian Medical Service, receive the honour of C.S.I.; and Messrs. W. M. Haffkine, A. F. R. Hœrnle, and J. Husband, that of C.I.E. Dr. J. Mackie, the President of the Egyptian Quarantine Board, and Dr. C. Gage Brown, the Medical Adviser to the Colonial Office, are promoted to K C.M.G., and Dr. S. W. Bushell receives the C.M.G. Deputy-Inspector-General of Hospitals H. C. Woods receives the Royal Victorian Order (4th Class). So much for the strictly medical honours, but we notice among the names those of many men distinguished in the scientific and philanthropic world with whose labours the medical man has necessarily much sympathy and sometimes a close connexion. We heartily congratulate, for example, Lord Rowton, who becomes a K.C.V.O.; Sir J. Blundell Maple, who receives a baronetcy; and Mr. H. C. Burdett, now Sir Henry Burdett, K.C.B., on the recognition which their powers of practical organisation have received. We are also glad to see among the new knights the names of Professor Crookes, the eminent chemist, Mr. Binnie, and Mr. Wolfe Barry, the engineers, Dr. Huggins, Mr. Christie, and Dr. Norman Lockyer, the astronomers; and Dr. Edward Frankland, whose researches into the method of securing a pure water-supply have certainly deserved a reward from the State.

## MEDICAL FEES AT INQUESTS.

MR. JOSEPH JOHN CLARKE, of Walthamstow, who ordered an injured woman into hospital and, when she died, gave evidence at the inquest in response to a summons, sued the coroner, Mr. Charles E'gar Lewis, at Brentwood County-court, to obtain a guinea for his remuneration. The case being of some importance plaintiff was represented by a barrister, Mr. W. Ellis Hill, instructed by Messrs. Le Brasseur and Oakley, the solicitors to the London

and Counties Medical Protection Society, Limited, and the South Essex coroner, who was defendant, was represented by the South-West London coroner, Mr. A. Braxton Hicks, who is also a barrister. Mr. Hill said that in the Coroners Act there is a provision that where an inquest was held on the body of a person who had died in a hospital or infirmary used for the reception of patients the medical officer whose duty it might have been to attend to such deceased person as medical officer of such institution should not be entitled to recover any fee or remuneration. The plaintiff, counsel added, was not the medical officer of the institution. Mr. Braxton Hicks resisted the claim because, he said, coroners, if they paid fees to these medical men, were surcharged by the auditors. His Honour held that the plaintiff was not the medical man whose duty it was to attend the deceased person as medical officer of the hospital and was therefore entitled to his fee as a witness. Judgment was given for plaintiff, with costs on the higher scale. Mr. Braxton Hicks said the case would be taken to the High Court, and leave to appeal was given.

## EXPERIMENTS ON LIVING ANIMALS: THE RETURN TO THE HOUSE OF COMMONS.

IN a Return made by the Inspectors under Act 39 and 40 Vict., c. 77, showing the number of experiments performed on living animals during the year 1896 under licences granted under the Act, we have a fuller account than usual of the working of the Act and a more detailed statement of the nature of the experiments performed. The total number of licences held in England and Scotland during the year 1896 was 236, under 70 of which no experiments were performed. These licences and certificates have in every case been granted and allowed only upon the recommendation of persons of high scientific standing, and care has been taken that the licensees should be by their training and education fitted to undertake experimental work and to profit by it, and that all experimental work should be conducted in suitable places. In his report Dr. Poore has classified the experiments, separating out those that are of the nature of inoculations and hypodermic injections from the rest, and placing them in a class by themselves. He points out that the process of inoculation is inadequately provided for in the Act of Parliament, and states that "it would be cruel rather than otherwise to anæsthetise an animal before subjecting it to the trivial operation of a prick with a needle, and yet the wording of the Act is such that the administration of anæsthetics can in no case be dispensed with except by a certificate (A) stating that 'insensibility cannot be produced without necessarily frustrating the objects' of such experiments. Notwithstanding that the wording of Certificate A is not wholly applicable to the circumstances, it is nevertheless allowed for inoculations." He then goes on to point out that the rapidly increasing knowledge of the various diseases caused by micro-organisms has necessitated the study of the life-history of these organisms by such inoculations, and further shows that inoculation is largely used for the diagnosis of disease in man and animals; that the preparation of mallein and tuberculin tests and the preparation and testing of antitoxins necessitate hypodermic injections in order that the strength and purity of these substances may be determined. The experiments, not merely inoculations and hypodermic injections, are 1516 in number; of these 969 were performed under the licence alone and 184 under certificate C; in both cases the animals suffered no pain, complete anæsthesia being maintained during the whole of each operation and the animal killed before it was allowed to come from under the influence of the anæsthetic. Under Certificate B 188 experiments were performed, and under B along with Certificate EE 175. Here the animals are under the influence of anæsthetics during the whole of the operation, which, as well as the subsequent treatment, is carried out under antiseptic precautions so that no pain results during the process of healing. Of the painless and hypodermic injections 5984 were made, most of these (5217) being carried out under Certificate A on small rodents, 67 under Certificate A+E, 13 under Certificate A+F, and 687 under Certificate B, those under Certificate B being in almost every case rabbits inoculated with rabic material, anæsthetics being used during the operation. It is interesting to notice that one of the only two cases in which the letter of the Act was doubtfully complied with was due to excessive care on the part of the licensee to avoid giving pain, as he administered an anæsthetic for four subcutaneous inoculations. The second case was that of a licensee who holds no certificate who inoculated a series of four mice with the ringworm fungus. As the Inspector points out, "it would be cruel rather than otherwise to administer an anæsthetic for such a proceeding. No experiment under the licence alone, however, can be performed without an anæsthetic, and the licensee held no certificate enabling him to dispense with anæsthetics. It might possibly be contended that such a proceeding is not "an experiment calculated to give pain" within the meaning of the Act. This, however, is a question which has to be decided by the licensee and those who sign his application for a licence. In the report signed by the Inspector for Ireland we learn that 7 licences were in existence, 3 of which expired during the year, and 3 were granted to gentlemen who had been previously licensed, and 2 to new experimenters. "Twenty-nine experiments were performed by one licensee, and 31, 15, 15, and 7 by the holders of certificates, the animals used being birds, monkeys, rabbits, mice, and rats. The experiments were all painless, except so far as a needle-puncture in some cases; 15 were directed to the investigation of the oxygen tension of the arterial blood, 29 to an examination of the nervous mechanism which governs respiration, 15 to trace the paths of the conduction of nervous influence, and 38 to the investigation of canine rabies for State purposes." He goes on to say that "all the experiments were, in my opinion, useful and calculated to throw light on vital phenomena, and on the relief of disease, and so to assist in the treatment of suffering." These analytical reports should go far to show how carefully regulated are experiments under the Act, and anyone who will read this Return impartially will be struck by the high sense of responsibility that characterises the observations of the Inspectors, who, whilst unwilling to hamper experimenters in any way, take the most careful precautions to carry out the requirements of the Act not only to the letter but in the spirit of those who framed it—to prevent cruelty of all kinds and unnecessary pain in every instance.

## FARM SANITATION AND MILK SUPPLY.

MR. G. H. DE'ATH, the medical officer of health of the Buckingham Urban Sanitary Authority, has done good service in publishing a *brochure* upon the very important subject of the sanitation of the farm with reference to milk supply. He points out how scrupulous is the observation of the rules of thorough cleanliness in the dairy farms of Holland and Denmark, and urges the necessity for greater circumspection in the management of cows, and especially in regard to the purity of their food and drink. It is certainly singular that so small attention is often paid to such matters, which must influence the health of the animals who yield one of the staple foods of man. But of equal importance is the care of the farmyard, the cowshed, and the utensils used in the collection and storage of the milk, and Mr. De'Ath gives many useful and practical hints in these and other directions. The pamphlet closes with a vigorous

protest against the prevalent practices of the milk trade, which was read at the Bucks Sanitary Conference in October, 1894, under the title of the "Sanitary Protection of the Milk Traffic." We trust that the lessons which Mr. De'Ath so plainly and forcibly teaches will be taken to heart by those concerned, and that farmer and dairyman alike will recognise that it is to their own interests that the conditions under which their milk is produced and sold shall be such as to guarantee the purity of the article. To attain this is not merely a matter of the avoidance of adulteration, but one of he application of the common-sense principles of health to the care of cattle, and the enforcement of the most rigid rules of cleanliness.

## THE NEW YORK CITY DISPENSARY BILL.

THE Bill introduced into the State legislature with the object of remedying the abuses of the dispensaries in New York City, after being approved by the legislative body at Albany, has been rendered of no effect by Governor Black refusing to affix his signature thereto. This unexpected action on the part of the Governor has caused much surprise. The majority of the medical profession in New York City are deeply disappointed at the failure of the Bill to become law, as it was generally considered well calculated to remedy many of the existing abuses and in other ways to put affairs connected with medical charities on a better footing. Nevertheless, matters are not to be allowed to continue in their present unsatisfactory condition. The local medical men are thoroughly aroused and are determined that a change shall be made in the conduct of the dispensary system. The fact is clearly recognised that things have already been allowed to drift too long, and are rapidly going from bad to worse. It is realised that unless a strong and determined effort is promptly made to effectually stamp out most of these abuses it will be too late to save the whole charity system from shipwreck. The *City Press* (New York) has taken up the matter in the energetic manner usual to the American newspapers when they inaugurate a crusade directed against any social evil. The *New York Herald* has been especially active, and published recently an outspoken leading article indicting the management of the dispensary charities. A part of the article ran as follows: "From what we can learn both parties in the controversy—the medical staff and the boards of management—are equally to blame. The doctors in their eagerness for clinical material are inclined to treat all interesting cases indiscriminately, whether able to pay or not, and the managers are anxious on general business principles to make a good showing for the institutions under their charge. No one doubts the fact that the majority of the patients treated in the dispensaries are able to pay the physician a legitimate fee and are consequently undeserving applicants. It is also true that the dispensaries are too numerous—are out of all proportion to the actual needs of the really poor patients, and are slowly but surely fostering a most dangerous form of pauperism. London is suffering from the latter condition, and New York is falling in the line of its bad example." From a perusal of the foregoing the fact will be grasped that there is much similarity between the abuses of the medical charities of New York City and London. In both places it has been proved up to the hilt that abuses on a very large scale do exist. In both places the management and medical men are to blame, and in both places the dispensaries and special hospitals are too numerous. In the *Forum* for June is an article by Dr. Geo. F. Shrady, entitled "The Dispensary, a Propagator of Pauperism." The subject is ably treated from every point of view, and some of the facts narrated will come as a revelation to many citizens of New York as well as to Englishmen who interest themselves in social affairs. Dr. Shrady says: "It may be broadly stated, as the result of exhaustive statistical study, that fully 50 per cent. of the patients who apply for free medical aid are totally undeserving of that charity. The main fault lies with the managers. In New York alone there are 116 dispensaries, each one of which is vying with the other in propagating the worst form of pauperism. It would appear that charity is monopolised in the same way as any other marketable commodity that is ruled by money. The millionaire philanthropists stand in the same relation to the medical profession as did the camel to the Arab when his beast asked the privilege of poking his nose into his master's tent; when the camel finally occupied it there was no room for the owner, and he was forced to vacate accordingly." Several striking instances are given in this article illustrating the deceptions to which rich persons will stoop to cheat charity and the medical man. We quote the most bare-faced case as told by a dispensary physician. "A wretchedly-clad woman presented herself to me at the dispensary and asked for treatment. She gave a name which I afterwards found was assumed. She was badly in need of attention, and said that she could not pay. I believed her and agreed to treat her. It was an interesting case, and she consented to appear before the class of fifty or sixty practitioners. One day after she had been before the class several times and treated I was driving with my wife in Central Park; we were passed by a magnificent team and carriage, spanking horses, nobby coachman and footman, and glittering harness. In the carriage was a lady whose features were familiar, but I could not remember where I had seen her. That same day my charity patient presented herself attired as usual in the poorest clothes. I recognised her as the lady of the fine turn out. I said nothing, as I thought I would investigate. A few days later I saw the same carriage in front of a fashionable shop, and got a good view of my patient as she alighted. When she next came to the dispensary I asked her for her real name. She gave me her assumed dispensary one. I told her she was deceiving me, and she finally disclosed her identity. She was the wife of a man known all over the city as a millionaire. I sent a bill to her husband and it was paid without a word." The suggestion is made that the control of dispensaries should be vested in a State Board of Charity, which should be granted ample powers to regulate their management, and without doubt at the next session of the Legislature another Bill will be introduced.

## THE LATE DR. R. M. GOVER AND MILITARY PRISONS.

A WELL-INFORMED correspondent writes to us as follows:—"Since the publication of your obituary notice of the late Dr. R. M. Gover, H.M. Inspector of Prisons, my attention has been called to the late officer's connexion with the institution at Millbank, with its department for military prisoners. If anyone will take the trouble to refer to the published reports of the House of Commons for many years prior to 1878 it will be found that questions were being constantly addressed to the Minister for War regarding the impaired state of health in which soldiers were discharged from prisons after having undergone their terms of imprisonment. In 1877 the then Secretary for War (Mr. Gathorne Hardy) determined to have the subject of these frequent complaints investigated, and a War Office Committee was appointed for that purpose. The army medical member of the committee, Surgeon-Major J. A. Marston, after long inquiry at Millbank and elsewhere, and after having gone fully into the subject, proposed a scale of diet for military prisoners which was finally adopted. It is a curious fact that the proposed scale before adoption was submitted to a medical expert and another authority, but did not meet with the approval of either, one

disapproving on the ground that the diet was worse than that for which it was proposed to be substituted, and the other because it was altogether too good. The result of some months' trial of the new dietary at Millbank showed, however, that it fully answered its purpose, that it did not entail additional expense, and that its adoption had the effect of preventing loss of weight among the military prisoners. Moreover, the late Dr. Gover expressed his great satisfaction with the results of the trial of the dietary in question, and added that the amount of petty crime among the military prisoners had been reduced since its adoption. It is believed that from that time to the present there have been no complaints in Parliament on the subject."

## MALARIA IN CONNEXION WITH METEOROLOGICAL CONDITIONS AT SIERRA LEONE.

SURGEON-MAJOR E. M. WILSON, C.M.G., lately senior medical officer at Sierra Leone, has published some brief notes and statistical tables illustrative of the effect of meteorological conditions on the malarial fevers endemic at that station. The inferences which the author draws from his observations appear to be well worthy of notice. Briefly expressed they are as follows:—Each battalion of the West India Regiment suffers exceptionally from fever during the first year of its service on the coast, the number of admissions and deaths falling in a marked degree in the second and still more in the third year. The white troops suffer much more than the black. The largest number of cases occur in the middle of the rainy season, in the period of the greatest rainfall and of the highest relative humidity and lowest temperature in the shade—i.e., July and August. The smallest number of cases occur in the period of least rainfall, least relative humidity, and greatest heat. The most important factor in influencing the disease seems to be the relative humidity of the atmosphere. The black troops are more affected by changes in the meteorological conditions than the white. The case mortality, or percentage of deaths to attacks, is small at all periods. The tables are well worth consulting by those interested in the subject, affording, as they do, very useful indications as to the prevalence of climatic fever sickness at Sierra Leone; and the author embodies some useful information in his notes commenting on this, and in his remarks regarding malaria generally and the proper dietary to be issued to troops serving in this climate.

## THE POLLUTION OF THE AVON BY THE BRISTOL SEWAGE.

THE influence of a sewage-polluted river upon the health and well-being of the inhabitants on its banks is a difficult question upon which there is some divergence of opinion and not a little conflicting evidence. It is always a difficult, if not an impossible, matter to detect in the death-returns of the neighbourhood the evidence of mischief, but although this is so it would be absurd to infer that no harm results; and there is, indeed, often an abundance of evidence too weighty and well founded to be lightly dismissed, that during periods of drought and heat much nuisance is caused by the effluvium from polluted streams; and, further, that vague symptoms of illness together with a lowered vitality, and perhaps septic complications of diseases are traceable to this cause. If, too, no such evidence as this were forthcoming, it would far from justify the continuance of a grave nuisance, which interferes with at least the happiness of many persons immediately concerned. The sewage of Bristol is discharged untreated directly into the river Avon as it flows through the city, and although it is stated that during ordinary times the scour of the tide is such that no nuisance arises, there would seem to be, from the reports which have reached us, no escape from the conclusion that during hot and dry summers a very considerable nuisance and much discomfort is occasioned by the sewage in question. It appears, in fact, that last year the nuisance was so great that its consideration was referred to a special subcommittee, but it does not seem that up to the present time the members have seen their way to decide upon a definite scheme. Dr. Davies, the experienced medical officer of health of Bristol, has remarked that "the very definite, persistent, and increasing complaints of nuisance from this cause must be allowed considerable weight," and he seems to think that it would be the best course to carry the intercepted sewage at once to the Bristol Channel, unless it can be properly dealt with at some intermediate point before its discharge into the river. Whatever course be adopted after due consideration will, it is to be hoped, be proceeded with without undue delay, inasmuch as the evidence seems to point to the fact that the nuisance is increasing side by side with the growth of the town and the consequent augmentation of the sewage. Bristol is well able to afford the cost of an adequate scheme, and we may rest assured that Dr. Davies will advise the council upon the best course to be adopted. We do not contemplate that in the meantime Clifton and Bedminster will become "depopulated," but the nuisance can scarcely be advantageous to the reputation of a health resort. To those who are taking up the question in a scientific aspect we would recommend the perusal of the First Report of the Royal Commission upon Metropolitan Sewage Discharge, in which will be found some interesting evidence on the effects of river pollution and on the movements of sewage in tidal waters.

## FLAT-FOOT: ITS CAUSES AND TREATMENT.

IN our issue of July 18th, 1896, we directed attention to certain recent investigations into the pathology and treatment of flat-foot. From these it was evident that the deformity in question is due to pressure acting upon the inner side of the foot through the medio-tarsal joint—i.e., the joint between the os calcis and astragalus on the one hand and the cuboid and scaphoid on the other. Abduction of the foot followed from the same cause, and its correction was an essential feature in treatment. A similar view is explained with much clearness and also much ingenious detail by Dr. Newton Shaffer in the *New York Medical Journal* of May 29th, 1897. His paper is further interesting as showing the part played by the tough plantar fascia in resisting the downward pressure, and especially the influence of contraction of the post-tibial muscles as tending to overcome this resistance by directing pressure upon the medio-tarsal joint. It may be mentioned that he includes under this term the tarsal articulations anterior to that above described. He thus explains his position: The plantar fascia, which never ruptures, can be stretched. When with a shortened gastrocnemius there coexists a weak and flabby plantar arch, the heel being unable to descend, the arch itself yields at its weakest point, which is the medio-tarsal joint. The scaphoid is pressed down, the inner side of the foot elongated and abducted, and flat-foot is thus produced as a natural sequel to a condition which at first sight appears to negative its production. Dr. Shaffer states that among hundreds of cases treated by him in orthopædic practice he can recall only three or four in which there was not an abnormal tension of the tendo Achillis. He suggests three lines of treatment as being equally logical and more or less practicable: (1) To divide the tendo Achillis and, if needful, the peronei and tibialis anticus which act with it, so as to "crowd the os calcis forward" and relax the plantar tissues, and then to apply an apparatus to adduct the foot; (2) to stretch these tendons under an anæsthetic,

and then apply the apparatus; and (3) by the gradual action of mechanical means to attain the same result. This latter method he has used with success even in some chronic cases. It consists in supporting the weak plantar arch with a metal piece worn inside the shoe, in depressing the forepart of the foot beyond the medio-tarsal joint by means of a screw foot-piece, and in depressing by similar means the heel while supporting the astragalus. Later an ankle support is worn, and is so made as to cause the patient to walk on the outer side of the foot. Dr. Shaffer's paper contains much that is of interest to the practitioner, and is illustrated by carefully constructed diagrams.

## THE SANITARY INSPECTOR IN EXCELSIS.

THE astounding length to which sanitary inspectors in Scotland are prepared to go with regard to their own ability to perform the duties of medical men could hardly receive better illustration than is afforded in a letter to the *Glasgow Herald* by Mr. Peter Fyfe, sanitary inspector, Glasgow. He writes as follows regarding a previous letter which had appeared in that journal:—

"Dr. Nasmyth makes another statement which I feel some hesitation in remarking upon, but as it would, if uncontradicted, do injustice to many qualified inspectors in sanitary practice, I must refer to it. He states that 'sanitary inspectors are not qualified to examine cases of disease,' and therefore the right of examination of patients is not conferred upon them, and draws an inference from that that as they are not, in his opinion, qualified to certify danger or injury to health, similarly no such right ought to be conferred on them. Now, sir, I know personally sanitary inspectors who through experience are very much better qualified to examine and certify cases of infectious disease than medical men are who perhaps have seldom had a chance of seeing these cases, and several cases have occurred where sanitary officers have had to contradict and correct the medical certificate which was granted with reference to infectious cases."

Surely this is a case of vaulting ambition over-leaping itself. There is an old proverb about the results of setting a beggar on horseback, which need not be quoted here, but we really think that our readers, whether medical officers or not, can make excellent use of the passage quoted. We repeat what we said in a recent issue, that it is the duty of every medical man, and especially of every medical officer of health, to call the attention of his representative in Parliament to the extraordinary proposals of the Public Health (Scotland) Bill—the essence of the proposals being to give to sanitary inspectors, of whom the law requires no qualification of any kind, statutory power to certify danger or injury to health.

## THE BRITISH INSTITUTE OF PUBLIC HEALTH.

LORD PLAYFAIR gave an excellent address at the Diamond Jubilee meeting of the British Institute of Public Health on the 16th instant; and the speeches delivered by Sir James Dick, Director-General of the Navy Medical Department, Surgeon-Major-General Jameson, Director-General of the Army Medical Department, and Dr. Thorne Thorne, medical officer of the Local Government Board, were also distinctly interesting. The various speakers garnered up the rich harvest of facts illustrative of the progressive hygienic changes that have taken place during Her Majesty's reign within their respective spheres of knowledge. There is no need to dwell upon the very different, wiser, and more practical standpoint from which we now regard epidemic disease. In every direction the progress made in public health and preventive medicine has been great and fruitful of results. It has become more and more evident that there is no short cut or royal road to safeguard people against disease, but the right way has been all along apparent if we would only have heeded it. The aim to be attained has been wholesomeness of life and surroundings, clean air and water and food, and a clean soil to live upon. Epidemics of typhus fever, once so common among the poorest and most overcrowded of our urban populations, have been practically abolished, and the health of our navy and army has undergone an immense improvement. The wonder was not that so many, but that so few, of our troops died from disease under the conditions in which they were placed before the Queen ascended the throne. About the year 1820 the troops in the West Indies slept in hammocks touching each other, only 23 inches of lateral space being allowed for each man; and at the same time in England many of the men slept in beds with two tiers like the berth of a ship, and not infrequently each bed held four men. The barrack accommodation and the overcrowding of our troops in barrack-rooms everywhere was deplorable; and it is needless to say that the barrack-room atmosphere was, in hot climates especially, sickening. There are, no doubt, still many bad barracks, but the worst of them is incomparably superior to the best that existed then; and all those which have been erected of late years are very good, and have been constructed with a due regard to all sanitary requirements and the best attainable convenience and comfort for their occupants. The accommodation for married soldiers and their families has been revolutionised. Contagious ophthalmia, so common in our army in pre-Crimean times and for some years subsequently, has been practically abolished by the sanitary and hygienic changes that have been introduced into our barracks and barrack-room life by the increase of cubic and superficial space, improved systems of ventilation and ablutionary arrangements, and, thanks to Listerism and antiseptic methods of treatment, the disease, when it occurs abroad or during a campaign in Egypt, is usually cured before it assumes the acute and distinctive form of purulent ophthalmia. We no longer encounter actual patients, as was common in our army years ago, or soldiers invalided by the disease with watery, bluish-red eyes, contracted brows, and blinking lids and shuffling gait, so indicative of intolerance of light and the chronic lesions of ophthalmia. If all the changes favourable to health that have been wrought in other respects in our army during the sixty years' reign of the Queen are not so obvious, they are none the less real, and those who witnessed the grand and imposing spectacle of Tuesday last can have no misgivings, at any rate, as to the physical health and efficiency of those of Her Majesty's forces who took part in it.

## FŒTAL TYPHOID FEVER.

AN interesting paper on the above subject appears in the *Medical News* (New York) of May 15th of this year by Dr. Crozier Griffith of Philadelphia. The writer remarks that the transmissibility of certain infectious diseases from mother to child has long been an admitted possibility, yet without there being much demonstrative proof of the passing of any germ from one to the other. Syphilis can undoubtedly be given by a mother to her offspring, and for years it was just as firmly believed that tuberculosis was constantly transmitted in this way. A certain reaction then took place, and it was claimed that inheritance existed, not of tuberculosis itself, but of susceptibility to contract the disease later. This would appear to represent the true condition in the majority of instances, but there are a number of cases on record in which tubercle bacilli have been discovered in the tissues of infants born of women suffering from tuberculosis; and the same has been found equally true of the calves of tuberculous cows. When we come to a consideration of the acute infectious diseases we find that children may in rare cases inherit the disease directly and be born suffering from it, or may in other rare instances complete the attack while still *in utero*. This has repeatedly happened in the case of variola, the children being born with the marks upon them. As an addition to the above remarks of Dr. Griffith we may

say that we examined a case of an infant born at the eighth month, the mother at the time suffering from anthrax. We found numerous bacilli in the maternal portion of the placenta, but not in the fœtal portion. The infant survived its birth a few hours, but there were no indications that it was afflicted with the disease. With regard to typhoid fever the question has been more difficult of solution, since the symptoms are less well marked. Yet cases of apparent typhoid fever in the newly-born have been reported by Charceley, and Hastelius found lesions strongly suggesting the disease in a stillborn child of a mother dying from typhoid fever. Dr. Griffith records his case in which the Widal test was used. A family epidemic of typhoid fever occurred in the practice of Dr. J. O'Malley, of Philadelphia, and the father, mother, and three children, the oldest being five years of age, were brought to the St. Agnes Hospital. On Nov. 18th, 1896, the mother, still ill from fever in the hospital, gave birth at term to a well-developed child. It was concluded that the mother was probably in the third week of the disease when labour took place. The infant seemed to be healthy in every respect except for a slight transitory jaundice. When the child was about seven weeks old a specimen of blood was obtained and submitted to the Widal test. In four minutes the bacilli became much less active and began to collect in groups, and some little time later they became agglutinated. The conclusion drawn from the case is either that the child had had typhoid fever *in utero* and recovered after a short attack, or that the agglutinating principle had passed through the placenta from the mother to the fœtus without the latter having contracted the disease at all. There remains also the hypothesis that the child had imbibed the virus with the mother's milk. Analogy to other infectious diseases, and the fact that fatal typhoid fever does occur, render the first supposition most probable—namely, that the child when born had already had an attack of the fever.

## THE HANDEL FESTIVAL.

AMONGST the remarkable developments of the Victorian era must be counted the growing taste of the public for good music. This may be attributed, we think, partly to the earnest efforts of our musical leaders some years ago to cultivate the public taste and to provide or lay the ground for the performance of works of real worth, and partly to the demand which is created by the ever-increasing pace of modern life for a source of true recreation for the mind as well as for the body. The great event held every three years at the Crystal Palace, when, with few exceptions, the choicest of Handel's inspirations are performed, is an important factor towards complying with this healthy and natural demand on the part of the public for this wholesome form of mental recreation. There could have been little disappointment in the mind of the great crowd which assembled on three occasions last week to hear the rendering of Handel's choruses by a choir of 4000 voices. Nor could any dissatisfaction have been expressed in regard to the execution of Handel's delightful melodies by the soloists. The programme of the great Handel week was very much in a line with that followed on previous occasions. For ourselves we confess that some little departure might with advantage have been made. The great composer has supplied a superabundance of material both for vocal and orchestral execution from which to make a selection. But we admit that there must be a considerable difficulty in including every choice excerpt. Handel wrote twelve organ concertos, and, as far as we recollect, the 1st in G major and the 2nd in B flat are played over and over again. Surely the authorities might occasionally give us the 11th in G minor, with its delightful second movement on a ground bass, or the 9th in F major, with the two charming minuets. Perhaps we may hear one of these at the next festival. As medical journalists there is little which calls for remark from us from our own peculiar point of view. We trust, however, that the interest in these festivals will never languish, and we are glad there is no reason for thinking that it ever will, in view of the splendid attendances which were recorded last week. From a point of view of a musical performance we believe, and those competent to judge have said, that the recent eleventh triennial event was an unqualified success. The first performance on Monday must have appealed to those who know and can appreciate the wonderful shades of feeling expressed in the *Messiah;* on Wednesday the light and shade were in still greater contrast, when some of the most popular solo writings, as, for example, the air from *Serse*, more familiarly known as the melody of the Largo in G, was most expressively sung by Miss Clara Butt as was the simple but most appealing air, "Lascia ch' io Pianga," from the opera *Rinaldo;* while those who find delight in the massive and stately choruses of *Israel in Egypt* must have been deeply moved by the excellent rendering of the immense choir on Friday. The festival is not only a joy at the time of performance, but for a long time the impressive numbers remain in the memory and afford the mind a delightful retrospect.

## RETENTION OF MENSTRUAL FLUID IN ONE HALF OF A DOUBLE UTERUS.

WHEN this rare condition exists a mistaken diagnosis is very liable to be made. Menstruation occurs regularly from one half of the uterus, therefore the possibility of any retention does not occur to the practitioner. The following case, recently published by Dr. J. Lamond Lackie,[1] was at first mistaken for an early fibroid condition of the uterus with endometritis. An unmarried woman, aged twenty-four years, had suffered for six years from pain in the right side, which was relieved only by a hæmorrhagic vaginal discharge every four months. After a few weeks the pain set in again and became gradually worse until once more relieved. Also, for a day or two every month between her normal periods there was an acute exacerbation of pain, and she felt as if she were going to be unwell, but there was no discharge until the four months had elapsed. The patient distinguished this discharge both from blood and that of ordinary menstruation. It was "more like brown paint." It always came on some days after an ordinary menstruation and continued for about three weeks. Examination showed well-marked bulging in the right fornix and fulness in the hypogastric and right inguinal regions. The patient then stated that she always observed a swelling in the right side before the hæmorrhage came on, which disappeared as it set in. She was kept under observation for seven weeks, during which increase in size and tenseness of the pelvi-abdominal swelling were noticed. The diagnosis was then thought to lie between a sessile ovarian tumour and a dilated tube. Vaginal aspiration was performed. The fluid obtained was of a dark chocolate colour, just like altered menstrual fluid. It consisted chiefly of altered blood corpuscles and pus. The patient recognised the fluid as of the same nature as that which escaped every four months. She remained free from pain or swelling for nearly two months, then there was recurrence. The tumour was incised from the vagina. On passing a finger into the cavity and a sound into the left half of the uterus the septum at the cervical level was found to be moderately thin; through this the sound was forced. The opening was enlarged by a pair of curved dressing forceps and a drainage-tube inserted

[1] Edinburgh Medical Journal, March, 1897.

Finally, the vaginal incision was sewn up, so that all discharge should pass through the tube. It did so for several days, during which irrigation was employed. In the course of a week she was perfectly well. The tube was retained and bougies passed to ensure patency. Ten days after the operation her normal period occurred; no discharge escaped by the tube, which protruded at the vulva. A fortnight later she menstruated again, but this time through the tube. At this period the amount was less, but accompanied by more pain. This sequence continued for three months, during which the patient remained quite well. Unfortunately, she was then attacked by rheumatism and succumbed to cardiac complications. The case is of great interest in several respects. The writer very aptly suggests as an explanation of the symptoms not commencing until the patient was eighteen years of age (menstruation began at sixteen) that it was only then that the right half of the uterus commenced the function of menstruation. The alternate menstruation of the two halves, which was demonstrated after the operation, but evidently occurred from the first, is a very curious phenomenon. It has, however, been previously observed in cases of double uterus. The emptying of the accumulated discharge of the right half every four months must have occurred through some imperfect communication only available when the tension became so great.

## RESECTION OF THE STERNUM.

PROFESSOR W. W. KEEN, of the Jefferson Medical College, Philadelphia, has published in the *Medical and Surgical Reporter* two cases in which the sternum was partially resected on account of tumours. The first patient was a woman, forty-four years of age, whose left breast, together with several enlarged axillary glands and the fascia over the pectoral muscles, was removed for carcinoma in March, 1892. The muscles themselves did not seem to be involved and were left. The patient made a prompt recovery. In January, 1894, the sternum showed a slight bulging at the junction of the manubrium and gladiolus, and in the following month a small nodule was discovered in the right breast. In March, 1894, the sternal tumour had increased very much in size, and as the sternum, the cartilages of the second and third ribs, and the intercostal muscle between them all seemed to be involved, both the cartilages and also the intercostal tissues were removed down to the pleura. The internal mammary artery was divided and secured by a curved needle passing through the thinned wall of the pleural cavity. A considerable portion (about 1 in. by 1½ in.) of both the manubrium and the gladiolus was then removed by the double rongeur forceps until apparently healthy bone was reached. The right breast was also removed, together with a layer of the pectoral muscle and all its fascia, and the right axilla was cleaned out. The patient recovered from the operation, but the disease returned, and she died in the following August. The second patient was a woman, twenty-eight years of age, in whom the tumour commenced in the beginning of 1895. In November, 1895, it covered the end of the right clavicle and the upper left portion of the manubrium, and there were two small nodules over the end of the right sterno-mastoid. It was diagnosed as sarcoma. The operation commenced with the removal of the lower third of the sterno-mastoid, together with all the diseased tissues in front of the sternum and clavicle. The inner third of the right clavicle and one inch of the inner end of the first rib were then removed, the manubrium was separated with the finger from the tissues of the mediastinum and divided just to the left of its right border and horizontally just above the joint between it and the gladiolus. The patient was discharged from hospital in January, 1896; no return has occurred after more than fifteen months, and her general health is now excellent. Portions of the sternum have frequently been removed for fracture, especially gunshot fracture, but Professor Keen has only been able to collect seventeen other cases in which the entire thickness of the bone was resected for tumour, not including superficial resections for such conditions as exostosis.

## ROYAL COLLEGE OF SURGEONS OF ENGLAND

AT the meeting of Fellows on July 1st only two resolutions will be brought forward. They are both to be introduced by Mr. R. B. Anderson, and refer to the refusal on the part of the Council to afford him pecuniary support in prosecuting his attempt to obtain a reversal of the judgments against him.

## THE WALSALL SCHOOL BOARD AND MEDICAL CERTIFICATES.

THE Walsall School Board has unanimously carried the following resolutions:—

"That two medical men, Mr. Willmore (Walsall) and Dr. Martin (Bloxwich), be appointed, ... a fee of 1*s.* 6*d.* in each case, to examine (1) children alleged to be absent from school on account of illness, and whose parents plead poverty as a reason for not obtaining a medical certificate; (2) children alleged to be absent from school on account of illness, whose parents have produced a medical certificate the genuineness of which the board have reason to doubt; (3) all candidates and pupil teachers on admission, as well as in special cases; and (4) to attend at the police-court when necessary and give evidence in relation to any of the cases which have been examined."

This is all very well, and we have no doubt that certificates must be examined by competent authorities occasionally, but we see no provision for letting the original signer of the certificate know that his certificate is to be supervised. As we said over and over again in the case of the London School Board, there is no objection to certificates being revised if the original giver is advertised of the fact, but to do so behind his back without letting him know is unpardonable, and if the Walsall School Board do not make provision for such a courtesy we can only advise every medical man in Walsall to refuse to give any certificate for a School Board.

## ALLEGED EXTRAORDINARY HYPERPYREXIA.

SURGEON-MAJOR TUOHY relates the following case in the *Indian Lancet* of May 16th, 1897. A nurse, aged thirty-eight years, contracted typhoid fever whilst attending a case. On the thirteenth day, at 6.30 P.M., whilst the temperature was being taken in the mouth, the thermometer burst at the bulb, with the mercury at the top of the column registering 112° F. At 10.30 P.M. the temperature in the axilla was 112°, the pulse 120, the face dusky and anxious, the breathing rapid and shallow, but the mind perfectly clear. With such a temperature for four hours he regarded the case as hopeless and ordered a wet pack. In half an hour the temperature fell to 98° F. and the patient was put back to bed, feeling drowsy and tired. This extraordinary rise of temperature occurred many times before convalescence was established. On four occasions it reached 117°, and on two of these the thermometer burst, so that a still higher point must have been attained. Once, when the temperature was 114°, another medical officer, Surgeon-Major Ward, verified the observation. For weeks the temperature was taken every quarter of an hour, as the rise was often very sudden. The wet pack was always promptly employed, to which the writer attributes the recovery of the patient. We must say that we view this case with a good deal of reserve. Cases of extraordinary hyperpyrexia have been from time to time brought before medical societies, but always received with suspicion. Patients have been known to cause

elevation of the mercury in various ways, such as inversion, friction, the application of poultices or hot-water bottles. Dr. Stephen Mackenzie exposed a case of this kind where a temperature of 120° was registered, by placing two thermometers in the same axilla, and finding a difference of several degrees between them.[1] The subjects of extraordinary pyrexia have almost invariably been females, and often neurotic or hysterical. However, it would be going too far to assert that all were necessarily cases of deception. Many years ago the late Mr. John Teale published a case of "Excessive and Long-continued High Temperature after Spinal Injuries, with Recovery,"[2] in which the temperatures ranged up to 122° F. In this case special thermometers were used, and every source of fallacy was apparently guarded against. In commenting on the case at the time, we had to admit that he had answered all objections. The subject is certainly one requiring further investigation.

## A CASE OF SEVERE DERMATITIS FOLLOWING TWO EXPOSURES TO THE X RAYS.

ON June 14th M. d'Arsonval presented to the Academy of Sciences at Paris a case, which had occurred in the practice of Dr. Apostoli, of dermatitis following two exposures to the x rays. The exposures were made upon May 22nd and 28th, 1896, the duration of the first sitting being forty minutes, with the Crookes's tube at a distance of fifteen centimetres from the skin, and the second lasted ninety minutes, the tube being at a distance of nine centimetres. After the first sitting nothing was noticed except great nausea on the part of the patient. After the second, however, an erythema appeared over the area which had been exposed—namely, the abdominal wall—and this erythema was followed by vesication and an abundant serous discharge. These gradually healed, and by July the patient was nearly well; but in August the whole of the affected surface sloughed and a severe burning pain was felt. No application to promote healing had the slightest effect and skin grafting was equally useless. At the end of October, 1896, the application of a current of oxygen was tried and promoted healing in a slight degree. In February, 1897, electric treatment was commenced. Statical electricity was used at first alone and then in combination with high frequency currents. In April, 1897, electric baths were commenced and employed twice a week, the current employed being the undulatory form. These applications had a very good effect, and by June, 1897, the whole affected surface, which measured 17·7 by 13·6 centimetres, was soundly healed. Dr. Apostoli considers that this form of dermatitis may be produced by the tube being too near, the sittings being too long, or even when short if following one another too rapidly or being too many in number. The dermatitis is very slow in healing, and apparently the best method of treatment is the employment of electric currents, both locally by using statical and undulating currents and generally by the exposure of the patient to a high frequency current.

IT is with great regret that we have learned of the deaths recently of two prominent members of the medical profession in New York. Dr. J. Lewis Smith, the well-known authority on diseases of children, died on the 9th inst., an Dr. William Lusk, the Professor of Midwifery at Bellevue College, on the following Sunday.

THE Abernethian Society of St. Bartholomew's Hospital will hold its mid-sessional meeting in the medical theatre of the school at 8 P.M. on July 1st, when Dr. Norman Moore will give an address on the Deaths of the Kings of England. All old members are cordially invited to attend the meeting.

[1] Medical Times and Gazette, Nov. 5th, 1881.
[2] Vide THE LANCET, March 6th, 1875.

THE annual general meeting of the Brussels Medical Graduates' Association will take place at the Café Royal, Regent-street, W., on Thursday, July 15th, at 6.30 P.M. At 7.15 for 7.30 P.M. the members and their friends will dine together, and Sir John Williams, Bart., Mr. Rentoul, Q.C., M.P., and Dr. A. E. Sansom will be the guests of the Association. Any Brussels medical graduate wishing to be present at the dinner is requested to communicate with the honorary secretary, Dr. Major Greenwood, at 12, New-court, Lincoln's-inn, W.C., or at 243, Hackney-road, N.E.

MISS JANE HARRISON, LL.D., the well-known authority on Greek antiquities, will give a lecture upon "Hospital Life in Ancient Greece," on July 8th, at 3.30 P.M., at the South-West London Polytechnic, Manresa-road, Fulham. Tickets may be obtained from the honorary secretary, University Extension, at the above address, and the proceeds will be devoted to the Extension evening classes.

THE authorities of the London Post-graduate Course have arranged that daily classes in bacteriology and hygiene will commence on July 5th and end on July 10th. This will enable busy practitioners to compress the needful work into the shortest possible time. Particulars can be obtained from Dr. Fletcher Little, secretary, 32, Harley-street, W.

WE understand that Lord Lister has replied to the communication addressed to him by Mr. George Jackson, F.R.C.S. Eng., and three co-signatories, which appeared in our columns last week, and that he courteously declined to be placed in nomination for the approaching election to the Council of the Royal College of Surgeons of England.

T.R.H. THE PRINCE AND PRINCESS OF WALES have consented to open the Park Hospital, Hither-green, the new hospital of the Metropolitan Asylums Board, on Monday, July 12th, at 4.15 P.M.

LITERARY INTELLIGENCE.—We have received a copy of a new illustrated fortnightly Italian journal. It is published in Florence and called *Scena Illustrata*. The illustrations are well printed. Among the list of contributors to the letterpress are the names of Professor Baccelli and Professor Lombroso among scientific men, and among the purely literary names those of Daudet, Coppée, and Zola, so that the literary part of the paper as well as the art department will evidently be of a high order.

PRESENTATIONS TO MEDICAL MEN.—Mr. Charles W. Izod, medical attendant to H.R.H. the Duchess of Albany, who, as recorded in THE LANCET of June 12th, has been celebrating his jubilee of practice and residence in the village of Esher, was on June 16th, presented with a massive silver salver and three handsome silver bowls by the residents of Esher. The presentation was made by Mr. P. M. Martineau at a public meeting of the inhabitants. Each of the pieces of plate bore the recipient's crest and the inscription: "Presented by his many friends to Charles William Izod, on the completion of fifty years' medical practice in Esher. June 16th, 1897." Mr. Izod, who has also received a silver cup from H.R.H. the Duchess of Albany, was presented with an illuminated album containing the names of the 500 subscribers.—Mr. Edward W. Parsey, M.B., B.C. Camb., has been the recipient, from the King's Norton Ambulance Corps, of an electro-plated biscuit tray, as a thank-offering for his lectures on first aid.—Mr. J. S. Montgomery, L.R.C.P., L.R.C.S. Edin., L.F.P.S. Glasg., of Sandyford, Glasgow, who has acted as resident surgeon at the works of the Steel Company of Scotland, at Newton, during the past eighteen months, was entertained to supper and presented with a handsome timepiece, suitably inscribed, and a travelling bag, on his leaving the district.—Mr. J. H. Marsh, M.R.C.S. Eng., L.R.C.P. Lond., has been presented with a handsome quarter chiming oak clock by the members of the Trinity Wesleyan Sunday School Male Ambulance Class, Macclesfield, as a token of appreciation of his services.

# The Lancet Special Commission
ON THE
# METROPOLITAN WATER-SUPPLY.

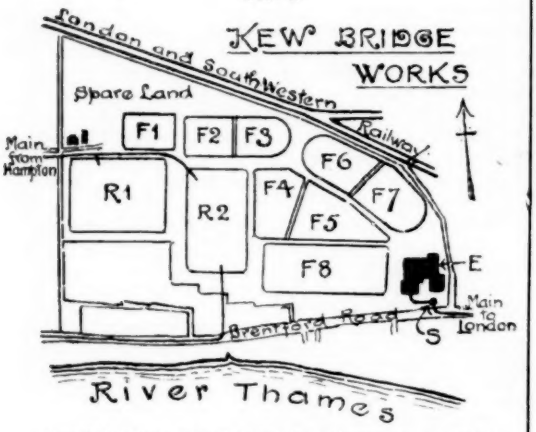
## XVI.[1]

### THE GRAND JUNCTION WATERWORKS COMPANY
*(Continued).*

*Kew Bridge Works, Brentford* (see B on Map and Fig. 1).—The Kew Bridge station is situated at Brentford in Middlesex. The area is about 26 acres. It consists of reservoirs, filter beds, and a pumping station, which are situated to the north of the Brentford road. There is a store yard and a house for the assistant engineer to the south of the road.

*Reservoirs.*—There are two reservoirs, an upper and a lower. The upper reservoir is capable of holding 14,000,000 gallons of water. Its depth in the centre is 14 ft. The slopes are lined with brick and concrete, and the bottom and sides are puddled. The lower reservoir is situated at a level of 8 ft. below the other. Its depth in the centre is 10 ft. It is capable of holding 8,000,000 gallons. The upper reservoir is supplied by both the 33-in. mains. The lower reservoir is supplied from both mains and also from the upper reservoir, from which the water flows to it in the form of a cascade.

FIG. 1.



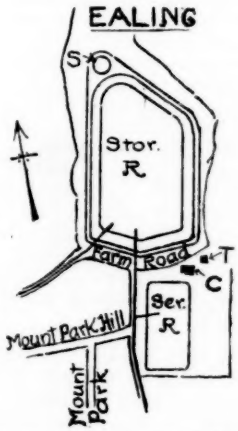

Kew Bridge Station, Brentford.—R 1, R 2, Reservoirs. F 1 to F 8, Filter beds. E, Engine-house. S, Standpipe tower.

*Filter beds.*—There are eight filter beds which have a total area of about 8½ acres. They are of somewhat irregular shape, but they are constructed on the same lines. They have from 2½ ft. to 3 ft. of sand and from 2 ft. to 2 ft. 6 in. of ballast. The only differences in them consist in the arrangements for the collection of filtered water, the presence or absence of ventilators, and the fact that two of them possess large filtered water chambers beneath. Filter No. 1 has an area of ¼ acre, it has a central filtered water channel and a small ventilation pipe in connexion with the filtered water channel on one side. Filters Nos. 2 and 3 have chambers for the storage of filtered water beneath them. These are covered with brick arches, the upper parts of which form the floors of the filter beds. Each is capable of holding 1,000,000 gallons. No. 4 has an area of 1¼ acres. The arrangement for collecting filtered water is by means of ballast. There are no drain-pipes at the bottom. Two air ventilators are situated over the filtered water culverts. No. 5 has an area of 1¼ acres. There are ventilators at the sides and one central one in communication with the filtered water channel. No. 6 has an area of ¼ acre and it has no central air shaft. No. 7 has an area of ¼ acre and two ventilating shafts. No. 8 has an area of 1⅞ acres. It has three large air shafts built of brick communicating with the filtered water culvert. The water from all the filter beds passes into a well situated near the engine-house, and from this it is conducted to the various engine wells.

*Pumping arrangements.*—A Worthington engine, capable of pumping 5,000,000 gallons a day, is used for the supply of the London district. It is worked at a pressure of 125 lb. The head of water worked against is 180 ft. This engine pumps 104 gallons per stroke, and the rate at which it is worked is 35 strokes per minute. A Cornish engine of the Bull type, having a cylinder of the diameter of 70 in. and a stroke of 10 ft. (and which therefore pumps 253 gallons per stroke), is worked at the rate of 12 strokes per minute. A Cornish pumping-engine, having a cylinder 65 in. in diameter and a stroke of 10 ft., pumps about 2,500,000 gallons a day to Ealing, working against a head of 235 ft. This pump is worked at a rate of 12 strokes per minute. Another engine, called the East Cornish, is also used for pumping to Ealing. This engine has a cylinder of 65 in. and a stroke of 9 ft. An engine called the West Cornish is used for pumping to the London district. It has a cylinder of 65 in., and pumps 140 gallons per stroke, usually working at a rate of 14 strokes per minute. The steam for the Worthington engine is generated by a water-tube boiler, and the engine is worked at a pressure of 125 lb. The other engines are worked by steam, generated by fifteen Cornish and one Lancashire boilers at a pressure of 40 lb. Two other engines called the "Ninety" and "The Hundred," are used for pumping to London. Of these, the cylinder of one is 90 in. and the stroke 10 ft. 6 in. The diameter of the cylinder of the other engine is 100 in. and it has a stroke of 11 ft. The water pumped by the Cornish engines passes through a stand-pipe 200 ft. in height. The stand-pipes are situated in a brick tower. There are two pipes for conducting water up and two for its return, and an overflow pipe. The rising main is 6 ft. in diameter at the base and the return pipe 3 ft. The Worthington engine pumps directly into the main. The station contains a cottage and a large workshop. There is also a store yard situated to the south of the Brentford-road next to the river, the site of the former intake of the Company.

*Hanger Hill, Ealing* (see C on Map and Fig. 2).—This

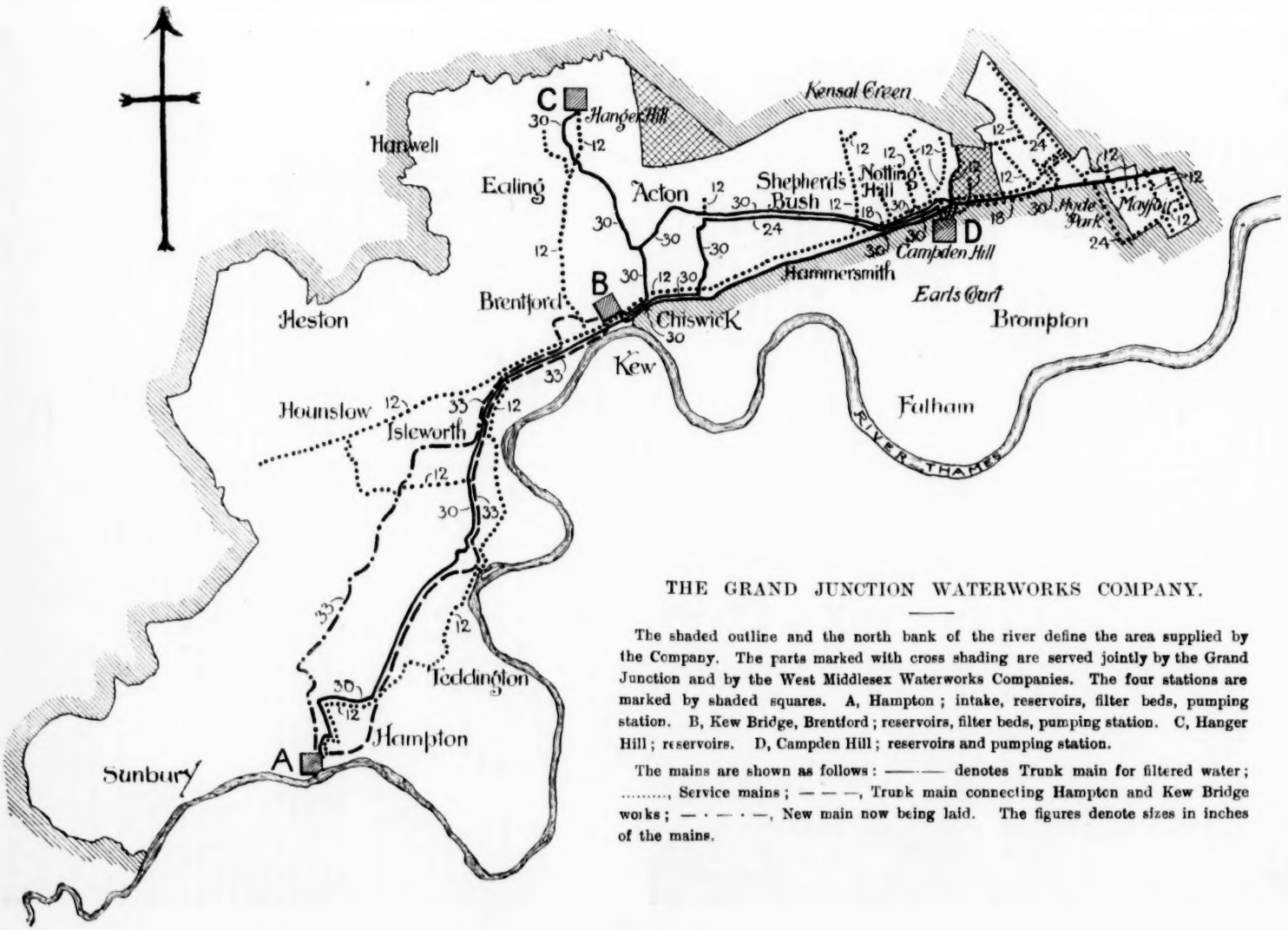
FIG. 2.




Hanger Hill Station.—S, Strainer. Stor. R, Storage reservoir. Ser. R, Service reservoir. C, Cottage. T, Tower.

station is situated at the highest point of Hanger Hill, 200 ft. above ordnance datum. It consists of two uncovered reservoirs and a tower containing a cistern. The high service reservoir is concreted at the sides and bottom and lined at the upper part with blue Staffordshire bricks. It is capable of holding 3,000,000 gallons of water. There is another reservoir of which the top water level is 7 ft. below that of the one just described. It is capable of holding 54,000,000 gallons. Its depth in the middle is 35 ft.

[1] Nos. I., II., III., IV., V., VI., VII., VIII., IX., X., XI., XII., XIII., XIV., and XV. were published in THE LANCET of Feb. 20th and 27th, March 6th, 13th, 20th, and 27th, April 3rd, 17th, and 24th, May 1st, 8th, 15th, 22nd, and 29th, and June 19th respectively.




## THE GRAND JUNCTION WATERWORKS COMPANY.

The shaded outline and the north bank of the river define the area supplied by the Company. The parts marked with cross shading are served jointly by the Grand Junction and by the West Middlesex Waterworks Companies. The four stations are marked by shaded squares. A, Hampton; intake, reservoirs, filter beds, pumping station. B, Kew Bridge, Brentford; reservoirs, filter beds, pumping station. C, Hanger Hill; reservoirs. D, Campden Hill; reservoirs and pumping station.

The mains are shown as follows: ——·—— denotes Trunk main for filtered water; ....., Service mains; — — —, Trunk main connecting Hampton and Kew Bridge works; — · — · —, New main now being laid. The figures denote sizes in inches of the mains.

Its shape is somewhat irregular, the sides slope as 1½ is to 1, they are lined with concrete for the lower 10 ft. and above with pressed bricks laid on edge and set in cement on a concrete bed. This reservoir is provided with an outlet tower fitted with five valves placed at different heights, so that water can be drawn off at some point a few feet below the surface of the water, no matter at what level the height of the surface of the water may be. Water for the supply of this reservoir is pumped from Kew. Before it is distributed it passes through a strainer. The strainer is in reality a filter bed. It is a circular shaft 60 ft. in diameter and is provided at the bottom with 2 ft. of fine shingle. Before distribution all the water from this reservoir passes through the strainer. The reservoirs are separated one from the other by a public road; both are fenced in. Near the high service reservoir there is the tower containing a cistern of which the outside dimensions are 16 ft. by 16 ft. by 8ft. The water is pumped into it by a small gas-engine. This water is used for the high service supply of the houses in the immediate neighbourhood. A caretaker's cottage is situated here.

*Campden Hill* (see D on Map and Fig. 3).—This station is situated 130 ft. above ordnance datum on the highest part of Campden Hill, just to the north of Airlie-gardens and next to the Campden-road, which separates it from the reservoirs of the West Middlesex Water Company. There are three covered reservoirs, a pumping-station, three cottages, and an office. The total area is about five acres. The reservoir which was first constructed (see Fig. 3, O R) is covered with brick arches built on iron girders, which are supported by brick arches. It is ventilated by means of iron shafts. The bottom of the reservoir is lined with concrete, and the sides slope 1 in 4. The capacity of the reservoir is stated to be 4,000,000 gallons. The top is covered by a thin layer of earth and turfed over. The two newer reservoirs (see Fig. 3, N R) are covered with arches built on brick piers, and are ventilated by perforated bricks at the sides. The slope of the sides of these reservoirs is less oblique than those of the older one. The maximum depth of water to which they are filled is 19 ft., and they are stated to have a capacity of 7,000,000 gallons each. The western reservoir and part of the middle one are partly covered with concrete, and the top is let to a lawn-tennis club.

FIG. 3.

Campden Hill Station.—C, Cottages. O, Office. E, Engine-house. N R, New reservoirs. O R, Old reservoir.

*The pumping arrangements.*—There are three Cornish engines. Of these, two have cylinders 70 in. in diameter and a stroke of 10 ft. The third engine has a cylinder 90 in. in diameter and a stroke of 10 ft. At the present time one of the two smaller engines only is in use. When visited on June 2nd it was working at a rate of about eight strokes a minute against a head of water of 115 ft. There are nine Cornish boilers, of which three were in use, and the pressure worked at was 40 lb. The water is pumped into a standpipe, of which the top is 288·4 ft. above ordnance datum. The standpipe is situated in the tower which is such a conspicuous object on Campden Hill. The amount of water pumped from this station during the last week was 12,000,000 gallons. The high pressure is obtained for the high-service supply of Maida-vale and the Park-lane district.

*Communications with other companies' mains.*—The mains of the Company communicate with those of the West Middlesex, the Chelsea, and the East London Waterworks Companies; with the West Middlesex Company's by a 24-in. main in Edgware-road, opposite Kilburn Park-road; with the West Middlesex Company's from the same 24-in. main into a 21-in. main at the junction of Edgware-road and Bayswater-road; with the Chelsea Company's 24-in. connexion at Hyde Park Corner; with the East London Company's connexion from the 36-in. main into Kew works; and with the East London Company's mains into service mains in the Grand Junction-road and neighbourhood.

*Length of new pipes.*—The length of new pipes ranging from 3 in. to 7 in. laid in 1895 was 4762 yards, and during the year 1896 was 9516 yards.

*Hydrants.*—The number of hydrants erected during the year 1895 was 35, and during the year 1896 it was 8.

*Houses under constant supply.*—The number of houses under constant supply on Dec. 31st, 1894, was 59,443; on Dec. 31st, 1895, 60,150; and on Dec. 31st, 1896, 60,910.

*Percentage of houses under constant supply.*—On Dec. 31st, 1896, the percentage of houses under constant supply was 100.

*Highest supply given.*—The highest supply given is at about 200 ft. above ordnance datum.

*Maximum and Minimum Month of Supply.*

| | Year 1895. | | Year 1896. | |
|---|---|---|---|---|
| — | Month. | Quantity in gallons. | Month. | Quantity in gallons. |
| Maximum | June | 22,382,109 | July | 22,618,801 daily average. |
| Minimum | January | 17,686,913 | March | 16,937,660 ,, |

*Table of Statistical Details given by the Grand Junction Waterworks Company for the Year 1896.*

| | | |
|---|---|---|
| SUPPLY. | Average daily supply in gallons | 18,796,284 |
| | Percentage delivered for other than domestic purposes, exclusive of waste | 20 per cent. |
| | Number of houses supplied | 60,544 |
| | Number of houses on constant supply | 60,544 |
| | Estimated population supplied | 411,663 |
| RESERVOIRS. Subsiding and storage unfiltered water | Number | 5 |
| | Area in acres | 17 |
| | Available capacity in gallons | 64,500 |
| Storage filtered water reservoirs | Number | 7 |
| | Capacity in gallons | 76,000,000 |
| ENGINES. | Number | 25 |
| | Horse power | 3716 |
| | Greatest lift | 235 ft. |
| | Head of pressure in the district supplied | 155 ft. |
| WATER PIPES. | Total number of miles of water pipes | 445½ |
| | Number of miles of water pipes in the metropolis | 191½ |
| | Number of miles of streets with water pipes constantly charged in the metropolis | 135¾ |
| | Number of hydrants erected within the metropolis | 1615 |
| FILTERS. | Number of beds | 17 |
| | Area in acres | 21½ |
| | Depth of sand and other materials | Old pattern:—Sand, 2 ft. 6 in.; hoggin, 6 in.; fine gravel, 9 in.; coarse gravel, 9 in.; boulders, 1 ft. New pattern:—Sand, 2 ft. 6 in.; gravel, 6 in.; drains, 3 in. |

*Works in progress (Hampton).*—1. A preliminary filter bed is being converted into two filter beds of the ordinary type;

each of these will have an area of one and a half acres. 2. An engine-house fitted with a Worthington engine is being erected for pumping water to Kew. 3. Two reservoirs are being converted into filter beds of one acre each. 4. A new main is being laid between Hampton and Kew Bridge (see Map).

AREA OF SUPPLY.

The Act of 1852 authorises the Grand Junction Company to supply the following places, two of which are entirely and the others partly supplied by the Company:—

*Supplied.*—Brentford, Ealing.

*Partly supplied.*—Hammersmith, Kensington, St. Mary Abbotts, Paddington; St. George, Hanover-square, St. James Westminster, and St. Marylebone.

The Act of 1861 authorises the supply of the following places, almost all of which are entirely supplied by the Company:—Acton, Bushey-park, Chiswick, Hampton, Hampton Court, Hampton Wick, Hanworth, Isleworth, Teddington, Twickenham, and Whitton. (Hampton Court Palace has a separate and private supply.) Parts of Ealing and Isleworth were excluded by this Act. The Act of 1878 authorises the supply of Heston and Hanwell (which are entirely supplied by the Company) and the previously excluded parts of Ealing and Isleworth.

*Errata.*—We regret that some errors should have crept into the first part of this article. On p. 1702, fifth line from the bottom of the right hand column, for "; D D" read "D ,D'". On p. 1704, fifteen lines from the top of the left hand column, for "Fig. 3 B." read "Fig. 3 D D." The full description of Fig. 3 should read as follows:—Diagram of ground plan of the arrangements for collecting water from the gravel bed. A, B, filter bed into which the river water is introduced. C, C, collecting pipes. D, D, D, D, brick shafts. The two at the lower part of the diagram represent the ones which discharge the water into the main which conducts it to the engine-house.

## THE ROYAL COLLEGE OF SURGEONS OF EDINBURGH.

*The Surgery of the Bladder.*

MR. FRANCIS M. CAIRD, F.R.C.S.Edin., Lecturer on Surgery, Assistant Surgeon to the Royal Infirmary, Edinburgh, delivered a lecture before the Royal College of Surgeons of Edinburgh on June 11th, entitled a Contribution to the Surgery of the Bladder. The address was devoted mainly to a consideration of recent advance in the treatment of tumours of the bladder. The lecturer contrasted the ease with which an accurate diagnosis could be established in the case of vesical tumours by means of the cystoscope with the greater difficulties encountered in formulating an opinion in gastric cases. In the latter instance the line of treatment had been systematised; in the former, despite the greater facilities for diagnosis, it is still uncertain. While the uniformly fatal issue of tumours of the bladder has long been recognised surgical intervention is of very recent date, for only fifteen years ago the general practice was to rely upon internal medication and the unstinted use of opium. A great advance was made when the value of drainage of the bladder became established, since by this means the suffering was markedly lessened and the hæmorrhage became arrested. Of such palliative measures examples were given. The advantages of suprapubic drainage lay in the shortness of the route, the unimportance of the tissues traversed, the remoteness of the wound from septic channels, and the ease with which a permanent tube might be applied. Again, the site of the tumour in the majority of cases is left undisturbed. Radical measures, complete removal of malignant growths, should in every case be the surgeon's object. When the ureters are not affected and the peritoneum can be stripped from the viscus, the whole thickness of the bladder-wall may readily be excised; when the peritoneum cannot be separated the method of Clado should be adopted. In all cases where possible the vesical wound should be sutured. If one ureter be alone affected, its mouth may be removed along with the tumour, and the divided extremity may be successfully re-implanted at a new site in the sutured bladder, or if this be impossible it may be led into the colon or rectum. The implication of the floor of the bladder or of both ureters generally requires complete extirpation of the organ. In the female this operation has been carried out with success on three occasions, the ureters being implanted in the vagina, which was closed so as to form a reservoir with the urethra utilised as an outlet. In the male, greater difficulties present themselves. The ureters have been led into the open wound or grafted into the great gut. It has now been sufficiently demonstrated that the latter method is possible and practicable. The rectum tolerates the urine and the sphincter is equal to the task, so that continence is easily maintained for three or four hours without inconvenience. There are six successful cases reported of bilateral implantation of the ureters for extroversion, and it is sufficiently clear that where other methods are not available the grafting of a single ureter in cases of rupture, &c., or of both in cases of extroversion or preliminary to excision of the bladder is sufficiently justifiable. It was suggested that an attempt might be made to establish an artificial bladder by the occlusion of a segment of the sigmoid flexure and providing it with a valvular outlet to serve as a urethra after the manner of Witzel. At a subsequent date the ureters may be implanted and the bladder may be excised. Reference was made to the various methods of uniting the ureters to the intestine, and the button devised by Boari for this purpose was demonstrated. Special stress was laid upon the value of the Trendelenburg position, the use of Petersen's bag, and Cathcart's method of continuous suction drainage.

The lecture was illustrated by specimens, anatomical and pathological, from the museum of the College. At its close the lecturer was complimented by the President, Emeritus Professor Struthers, on the clearness of the exposition and on the ingenuity of his methods of dealing with the various morbid conditions of the bladder. He had listened with the greatest interest to the lecture, for all these operations were new since he was in surgery, as surgeon to the old Royal Infirmary, from thirty to forty years ago. At that time they approached the bladder only from below. To attack it from above the pubes was regarded as likely to be attended by a fatal result. Thanks to Lord Lister, all these wonderful operative procedures are now rendered possible. The President mentioned that Mr. Caird's lecture concluded the series of College lectures for the present session.

## STATISTICS OF SMALL-POX AND VACCINATION.

ON June 15th Mr. Alfred Milnes, M.A.Lond., read a paper before the Royal Statistical Society on "Statistics of Small-pox and Vaccination, with Special Reference to Age-incidence, Sex-incidence, and Sanitation." The paper was understood to be a rejoinder to a paper on the same subject by Mr. Noel A. Humphreys read before the same society a few months ago. The main interest attaching to Mr. Milnes's paper arises from the fact that he is the editor of the *Vaccination Enquirer* and one of the most influential advocates of the party which absolutely refuses to recognise any protective effect from vaccination. That he is an able advocate of this incomprehensible tenet will probably be admitted by all who possess the patience to read carefully his long and elaborate paper; and it is in some respects useful to know what can be said in support of anti-vaccination by one of its most skilful exponents. It is impossible, however, to assert that the paper contains much that is new in the way of argument although many of the well-worn theories and assertions of Mr. Milnes's party are handled with exceptional skill. The paper carefully avoided all but the most incidental reference to the recent remarkable epidemic of small-pox in Gloucester; and Mr. Milnes, when asked during the discussion which followed the reading of the paper for an explanation of this omission, declared that the whole of the facts of that epidemic are still under dispute, and that he does not believe any of the figures that have yet been published relating to it! This remark indicates the tone and spirit of much of the paper, which it is needless to say is objectionably aggressive. It is asserted that "vaccination and small-pox attained their maximum together, and together they have steadily declined." This is not strictly accurate, because infant vaccination reached

its maximum in 1876, which was certainly not the year of maximum small-pox mortality. Moreover, there is no reasonable ground for expecting that an annual default of 14 or 15 per cent. in the official returns of infant vaccination would immediately cause an increaseed small-pox mortality, unless small-pox were prevalent at the time, as was the case recently at Gloucester.

The comparison of the declining rates of mortality from other diseases than small-pox was dealt with at great length by Mr. Milnes. Because fever and cholera have declined concurrently with the decline of small-pox he argues that there is no justification for attributing the decline of small-pox to vaccination. He refuses to recognise that fever and cholera are diseases distinctly due to insanitary local conditions, and that no one would venture to assert that small-pox can be produced by the same causes. Mr. Milnes is extremely autocratic in his methods of dealing with facts. With a view to mask the remarkable decline in the proportional child mortality from small-pox in recent years, he insists on treating all deaths ascribed to chicken-pox as fatal cases of small-pox; and he further insists, with a view to increase the proportion of small-pox deaths after vaccination, that all the cases of small-pox registered with "no statement as to vaccination" are vaccinated cases. The omission on the part of certifying practitioners to give this information for insertion in the death register is much to be regretted, but Mr. Milnes's assertion that all the "not stated" cases are vaccinated cases is unjustifiable and certainly incorrect, as the "not stated" cases include large numbers of cases in which the deceased persons, although reported to be vaccinated, bore no marks of the operation.

Mr. Milnes devoted a considerable portion of his paper to the elaboration of the pet theory of the opponents of vaccination that sanitation and not vaccination is the controlling factor of small-pox mortality. Because Dr. Farr's life table of diseases shows that small-pox mortality in 1861-70 was far lower in the healthy (that is, the rural) districts than in Liverpool it is asserted that sanitation rather than vaccination governs the mortality from this disease. In another part of the paper it is admitted that "small-pox is a question of exposure to infection," and yet Mr. Milnes does not recognise that this undoubted fact vitiates his conclusions from the small-pox rates in healthy districts and in Liverpool. What is the relative chance of exposure to infection in a healthy rural district and in a seaport town like Liverpool?

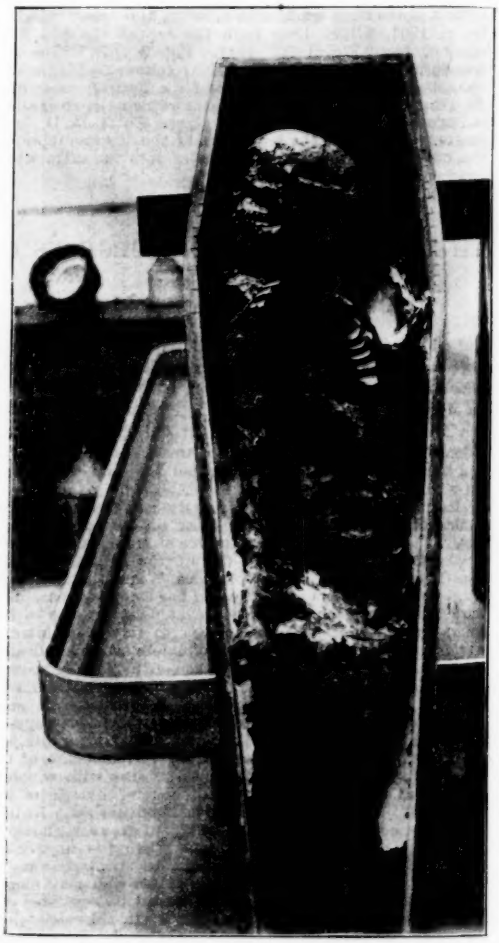
Mr. Noel A. Humphreys, in his recent paper, gave a table showing that the proportion of child mortality from small-pox at each of the six recent local epidemics investigated by the Royal Commission on Vaccination bore a constant relation to the amount of default of infant vaccination in preceding years. In Warrington and Sheffield, where the default of vaccination was under 5 per cent., 23 and 26 per cent. of the deaths from small-pox were of children under ten; while in Gloucester and Leicester, where the default was 68 per cent., the proportion of small-pox deaths under the age of ten years was 65 and 71 per cent. respectively. These facts appear to have disturbed the opponents of vaccination, and Mr. Milnes, as the result of elaborate calculation, comes to the conclusion that the "high proportion of children's deaths in Leicester is due to the high proportion of children's attacks!" This cannot be questioned, but had neglect of vaccination nothing to do with the high proportion of children attacked? We more than suspect that it had in Leicester and also in Gloucester, where 280 children under ten years of age died from small-pox last year.

Mr. Milnes, with reference to the sex-incidence of small-pox, asserts, with a view to depreciate the value of re-vaccination, that "there can be no doubt that re-vaccination is preponderatingly incident on the male sex." We venture very much to doubt the probability of the accuracy of this assertion, for notwithstanding the compulsory re-vaccination of the army and navy, and of the postal service, very large numbers of female domestic servants are undoubtedly re-vaccinated, and it is easier to persuade women than men to be re-vaccinated. It would be interesting to have some actual figures and experience on this point, on which Mr. Milnes seems to think there is no room for doubt. There can, however, be practically no question about the fact that adult males, who appear to suffer from small-pox more severely than adult females, are as a rule exposed to greater risk of infection than females, and if this, or a higher case-mortality of small-pox among males, be the cause of the greater liability of males to fatal small-pox, what becomes of Mr. Milnes's attack on the value of re-vaccination?

At the close of Mr. Milnes's paper, a short discussion followed in which Mr. Noel A. Humphreys, Dr. W. R. Hadwen, Mr. Shirley Murphy, Mr. Yule, Dr. E. J. Edwardes, and one or two others took part, and the usual vote of thanks to the reader of the paper was passed.

## THE DISCOVERY OF HUMAN REMAINS IN MARYLEBONE.

BY the kind permission of Dr. G. Danford Thomas we are enabled to publish the accompanying illustration, taken from a photograph of the remains of a body found in a disused house in Little Marylebone on March 24th of this year. Workmen were engaged in pulling up the floor boards of the second-floor back room when they found the remains. The body was partially clothed in a child's shirt and bodice, which were much destroyed. There were also a pair of socks and a pair of boots in a good state of preservation. Under the body was a portion of the *Times* newspaper of Nov. 25th,



1879. A print dress was also wrapped round the body. The lower part was wrapped in American cloth. Mr. Spurgin, the divisional surgeon, who examined the remains, found that they were those of a female child between six and seven years of age. The temporary teeth were all present, and on removing

a piece of skin over the upper maxilla the first permanent molar could be seen in the ramus of the jaw behind the second temporary molar, these showing the value of dentition in identifying the age of a dead body. The child had been short and squat, as was evidenced by the length of the bones of the legs being out of proportion to that of the spine. There was a curvature of the spine, which might have been a natural deformity or due to the position in which the body had been placed after death. The cause of death had evidently been suffocation as a neckerchief of some silken or gauzy material was found pressed tightly over the mouth and the tongue was protruded between the teeth. The body was in a mummified condition, the skin of the head, face, and abdomen being of a leathery consistence. The parietes of the thorax had almost disappeared, and the contents of the thoracic cavity were represented by a heap of brown dust. The arms were separated from the body. The parietes of the abdomen were better preserved, brown in colour, and almost like parchment. The only organ of which there were any distinct traces was the liver, which was represented by a brownish mass about the size of a cricket ball. The bones were brown in colour and pliable, easily crumbling to dust. A peculiar odour was emitted, somewhat resembling that of old cheese. The fact that the leather boots were in good preservation would negative the supposition that the body had been partially eaten by rats. The mummified condition was probably due to the fact that the body had been laid in a dry place where there was free draught. The time that had elapsed since the body had been placed in the position in which it was found, Mr. Spurgin thought, must have been ten or twelve years at the least, but the date of the *Times* newspaper would suggest a good deal longer than that, as it is not a common thing for a newspaper to lie about for seven years, for, as above stated, the date of the *Times* found with the body was 1879, and there was nothing in the appearance of the body to negative the supposition that it had been there over seventeen years. The appearance presented by human remains after a lapse of time varies greatly, depending entirely upon surrounding conditions. In dry, elevated situations putrefaction goes on very slowly, and other cases are on record where the body of a child has been found in the rafters of a house in a mummified condition.

## SOCIETY OF MEMBERS OF THE ROYAL COLLEGE OF SURGEONS OF ENGLAND.

THE following letter has been sent to all the candidates for the vacant seats on the Council of the College.

West Hill, Putney, S.W.,
18th June, 1897.

DEAR SIR,—Understanding that you are a candidate at the approaching election to the Council of the College, the executive committee of this society has instructed me to ask you to be good enough to communicate your views on certain matters of interest to the Fellows and Members. In explanation of this request from those who are not directly electors, I am to refer you to a resolution passed by the Council in March, 1896, to the following effect: "That this Council represents the Body Corporate of the College, and therefore the Members as well as the Fellows." I am further to add that should you be good enough to favour me with a reply we propose to publish it, subject to your approval.

The Committee of this Society feels that it is desirable that in future the Fellows and Members should be in possession of something more than vague statements in the press as to the views of candidates on current topics.

The following are the questions to which I am directed to solicit a reply:—

1. Are you in favour of granting the Members a limited direct representation on the Council?
2. Do you consider that the President should be elected by the Fellows generally or as at present?
3. How do you think that the representative of the College on the General Medical Council should be appointed in accordance with the Act of 1858?
4. Will you support a literal interpretation of By-law 15, and do you consider that the rights, privileges, &c., of a Fellow or Member referred to in the By-law are those in virtue of which he practises his profession?

I remain, faithfully yours.
W. G. DICKINSON, Honorary Secretary.

Concerning the replies received up to date Mr. Dickinson writes to us as follows:—

"Mr. JACKSON replies 'yes' to the first question; to the second he answers that he thinks that the President should have been a member of Council for at least from two to three years, and should be elected by the reformed Council; the third question he does not answer clearly, and replies 'yes' to the fourth."

"Mr. HOWSE replies 'no' to the first question; 'as at present' to the second and third; to the fourth, which he objects to as 'vaguer than the by-law itself,' he says he will 'support any legal interpretation which seems to me just and good for the profession and the College.

"Mr. EDMUND OWEN prefers to reserve his freedom of action and independence as a member of Council if elected, and therefore declines to answer the questions.

"Mr. ANDREW CLARK coincides with the present policy of the Council, and is in sympathy with their resolution of March 16th.

"Mr. WATSON CHEYNE does not propose to pledge himself to any course of action if elected."

## ANATOMICAL SOCIETY OF GREAT BRITAIN AND IRELAND.

THE summer meeting of this society was held in Trinity College, Dublin, on June 10th and 11th. In addition to an unusually large number of British anatomists the following foreign guests were present:—Professor Waldeyer (Berlin), Professor His (Leipzig), Professor Leboucq (Ghent), Dr. Otis (Boston, U.S.A.), Professor Disse (Marburg), Professor Spalteholtz (Leipzig), Dr. de Bruyne (Ghent), Dr. Frohse (Berlin), and Dr. Kœstner (Leipzig). Professor G. D. Thane took the chair at 10 A.M. on the 10th, and after seven new members had been elected the following programme was carried out. Dr. T. H. Bryce, (Glasgow): a Pair of Negro Femora, the left showing a remarkable development of the popliteal surface. Professor Spalteholtz (Leipzig): Stereoscopic Photographs illustrating the Distribution of the Arteries of the Human Skin. Professor Leboucq (Ghent): the Ossification of the Terminal Phalanges of the Finger in relation with Hyperphalangy. Professor Birmingham (Dublin): Models illustrating the Topographical Anatomy of the Abdominal Viscera. Dr. Kœstner (Leipzig): Specimens of Malformed Chick Embryos. Professor Sir William Turner (Edinburgh): X Ray Photogtaphs of Mercurial Injections of the Arteries of the Limbs and Kidneys. Dr. Otis (Boston, U.S.A.): Some Points in the Structure of the Rectum. Professor A. Macalister (Cambridge): A Study of Australian Brains. Mr. J. Cantlie (London): On the Position of the Gall-bladder. Professor R. Howden (Durham): On a Case of Marked Distension of the Colon. Professor Redfern (Belfast): On the Development and Nutrition of Bone and Cartilage. In the afternoon at 2.30 P.M. the following papers were read: Professor Windle (Birmingham) and Mr. F. G. Parsons (London): Note on some Points in the Nomenclature of Comparative Myology. Professor W. Anderson (London): The Peritoneal Relations of the Sigmoid Flexure. Professor Disse (Marburg): The Development of the Olfactory Nerve in Birds. Professor Spalteholtz (Leipzig): Reticulated Tissue in Different Organs. Professor Dixon (Cardiff): The Development of the Eye-muscle Nerves in Mammals. Professor Cunningham (Dublin): (1) the development of the Sulcus of Rolando; and (2) the Development of the Calcarine Fissure. Dr. E. H. Taylor (Dublin): The Applied Anatomy of the Rectum. In the evening the members were entertained at dinner in the College of Physicians by the President of the Royal Academy of Medicine in Ireland. On Friday, June 11th, the meeting breakfasted with Professors Cunningham and Birmingham at the Zoological Gardens in Phœnix Park, after which the following communications were made: Professor v. Bardeleben (Jena) and Dr. Frohse (Berlin); The Finer Ramifications of Nerve Filaments in Muscle. Dr. C. J. Patten (Dublin): (1) Two Curious Modifications of the Lower Jaw; and (2) Cervical Vertebræ in which the Laminæ have not fused. Professor Cunningham (Dublin): Models and Specimens of the Kidneys. Dr. G. Elliot Smith (Sydney): The Morphology of the Fornix and Margin of the Cerebral Cortex. Dr. W. Smyth (Belfast): Absence of Pectoralis Major in a Living Boy. Dr. de Bruyne (Ghent): the Functional Adaptations of Phagocytosis. Professor Waldeyer: The Anatomy of the Outer Wall of the Pelvis, with special Reference to the Position of the Ovary. Dr. R. J. Berry (Edinburgh): The Anatomy of the Cæcum and Vermiform

Appendix. Mr. Booth Pearsall (Dublin): The Linear Determination of the Human Tooth-Form. Dr. W. S. Haughton (Dublin): Applications of X Rays Photography to Anatomical Investigation. Professor D. J. Cunningham (Dublin): Note on Cape Hunting Dogs. Professor Windle (Birmingham): Priestley Smith's Formol Method of Mounting Specimens of the Eye. Professor R. Howden (Durham): On a Case of Bifid Scrotum.

## METROPOLITAN HOSPITAL SUNDAY FUND.

THE following are a few of the principal amounts received at the Mansion House, the lists of which have been received at THE LANCET Office up to the time of going to press on Thursday, when the total amounted to about £8000. The total sum recorded at the corresponding period last year was £17,000.

| | £ | s. | d. |
|---|---|---|---|
| St. Paul's Cathedral ... ... ... ... ... ... ... | 593 | 3 | 4 |
| Westminster Abbey ... ... ... ... ... ... ... | 429 | 16 | 0 |
| St. Michael, Chester-square ... ... ... ... ... | 1328 | 0 | 0 |
| Delta ... ... ... ... ... ... ... ... | 200 | 0 | 0 |
| E. O. ... ... ... ... ... ... ... ... | 100 | 0 | 0 |
| St. Matthew's, Brixton ... ... ... ... ... ... | 106 | 9 | 2 |
| Foundling Hospital Chapel ... ... ... ... ... | 104 | 14 | 3 |
| Union Chapel, Islington ... ... ... ... ... ... | 134 | 8 | 2 |
| Metropolitan Tabernacle ... ... ... ... ... ... | 109 | 8 | 0 |
| St. Nicholas Parish Church, Chislehurst ... ... ... | 251 | 0 | 8 |
| St. Margaret's, Westminster ... ... ... ... ... | 239 | 19 | 6 |
| St. Peter's, Brockley... ... ... ... ... ... ... | 121 | 0 | 0 |
| St. Stephen's, South Dulwich ... ... ... ... ... | 202 | 6 | 5 |
| Christ Church, Highbury ... ... ... ... ... ... | 100 | 13 | 9 |

## VITAL STATISTICS.

### HEALTH OF ENGLISH TOWNS.

IN thirty-three of the largest English towns 6610 births and 3328 deaths were registered during the week ending June 19th. The annual rate of mortality in these towns, which had been 17·4 and 15·6 per 1000 in the two preceding weeks, rose again last week to 15·8. In London the rate was 14·6 per 1000, while it averaged 16·6 in the thirty-two provincial towns. The lowest rates in these towns were 9·9 in West Ham, 10·8 in Burnley, 10·9 in Hull, and 11·6 in Brighton; the highest rates were 21·6 in Huddersfield, 22·2 in Preston, 22·8 in Bolton and 26·9 in Salford. The 3328 deaths included 354 which were referred to the principal zymotic diseases, against 364 and 379 in the two preceding weeks; of these, 138 resulted from measles, 78 from whooping-cough, 49 from diarrhœa, 41 from diphtheria, 28 from scarlet fever, 20 from "fever" (principally enteric), and not one from small-pox. No death from any of these diseases was recorded last week in Swansea; in the other towns they caused the lowest death-rates in Bristol, Bradford, and Croydon, and the highest rates in Plymouth, Preston, Bolton, and Salford. The greatest mortality from measles occurred in Birmingham, Burnley, Preston, Bolton, Manchester, and Salford; from scarlet fever in Wolverhampton, from whooping-cough in Plymouth and in Huddersfield, and from diarrhœa in Salford and in Norwich. The mortality from "fever" showed no marked excess in any of the large towns. The 41 deaths from diphtheria included 29 in London, 3 in Liverpool, 2 in Burnley, and 2 in Sheffield. No fatal case of small-pox was registered either in London, or in any other of the thirty-three large towns. There were no cases of small-pox under treatment in the Metropolitan Asylum Hospitals on Saturday last, the 19th inst., the numbers at the end of the three preceding weeks having been 12, 4, and 2 respectively; no new cases were admitted during the week. The number of scarlet fever patients in the Metropolitan Asylum Hospitals and in the London Fever Hospital at the end of the week was 2670, against 2546, 2601, and 2637 on the three preceding Saturdays; 274 new cases were admitted during the week, against 278, 274, and 255 in the three preceding weeks. The deaths referred to diseases of the respiratory organs in London, which had been 229 and 191 in the two preceding weeks, further declined to 141 last week, and were 94 below the corrected average. The causes of 43, or 1·3 per cent., of the deaths in the thirty-three towns were not certified either by a registered medical practitioner or by a coroner. All the causes of death were duly certified in Portsmouth, Bradford, Leeds, Hull, Newcastle-upon-Tyne, and in twelve other smaller towns; the largest proportions of uncertified deaths were registered in Birmingham, Preston, Halifax, and Sheffield.

### HEALTH OF SCOTCH TOWNS.

The annual rate of mortality in the eight Scotch towns, which had been 20·3 per 1000 in each of the two preceding weeks, declined again to 19·4 during the week ending June 19th, but was 4·5 per 1000 above the mean rate during the same period in the thirty-three large English towns. The rates in the eight Scotch towns ranged from 11·9 in Perth and 16·1 in Greenock to 22·0 in Dundee and 27·0 in Leith. The 577 deaths in these towns included 29 which were referred to whooping-cough, 24 to measles, 23 to diarrhœa, 5 to scarlet fever, 5 to "fever," 1 to diphtheria, and not one to small-pox. In all, 87 deaths resulted from these principal zymotic diseases, against 93 and 94 in the two preceding weeks. These 87 deaths were equal to an annual rate of 2·9 per 1000, which exceeded by 1·2 the mean rate last week from the same diseases in the thirty-three large English towns. The fatal cases of whooping-cough, which had been 40 and 37 in the two preceding weeks, further declined to 29 last week, of which 13 occurred in Glasgow, 5 in Edinburgh, 5 in Dundee, and 5 in Leith. The 24 deaths from measles were within 3 of the number in the preceding week, and included 15 in Edinburgh, 5 in Glasgow, and 3 in Leith. The deaths referred to different forms of "fever," which had been 3 and 8 in the two preceding weeks, declined again to 5 last week, of which 4 occurred in Glasgow, where 3 of the 5 fatal cases of scarlet fever were also recorded. The deaths from diseases of the respiratory organs in these towns, which had been 110 and 108 in the two preceding weeks, were 109 last week, and exceeded by 27 the number in the corresponding period of last year. The causes of 36, or more than 6 per cent., of the deaths in these eight towns last week were not certified.

### HEALTH OF DUBLIN.

The death-rate in Dublin, which had declined in the three preceding weeks from 28·3 to 22·4 per 1000, further fell to 19·7 during the week ending June 19th. During the past eleven weeks of the current quarter the death-rate in the city has averaged 28·5 per 1000, the rate during the same period being 15·8 in London and 25·8 in Edinburgh. The 132 deaths registered in Dublin during the week under notice showed a decline of 18 from the number in the preceding week, and included 14 which were referred to the principal zymotic diseases, against 10 and 14 in the two preceding weeks; of these, 6 resulted from whooping-cough, 3 from diphtheria, 2 from scarlet fever, 1 from measles, 1 from "fever," and 1 from diarrhœa. These 14 deaths were equal to an annual rate of 2·1 per 1000, the zymotic death-rate during the same period being 1·4 in London and 3·7 in Edinburgh. The fatal cases of whooping-cough, which had been 3 and 4 in the two preceding weeks, further rose to 6 last week. The 3 deaths referred to diphtheria exceeded the number recorded in any week since February last. The fatal cases of scarlet fever, which had been 2 and 4 in the two preceding weeks, declined again to 2 last week. The mortality from measles and from "fever" also showed a decline from that recorded in the preceding week. The 132 deaths in Dublin last week included 29 of infants under one year of age, and 24 of persons aged upwards of sixty years; the deaths of children showed a slight increase, while those of elderly persons were considerably below the number recorded in any recent week. Six inquest cases and 4 deaths from violence were registered; and 50, or more than a third, of the deaths occurred in public institutions. The causes of 6, or nearly 5 per cent., of the deaths in the city last week were not certified.

# THE SERVICES.

## ARMY MEDICAL STAFF.

SURGEON-LIEUTENANT-COLONEL JAMES has assumed Charge of the Station Hospital, Beverley, in relief of Brigade-Surgeon Hoystead.

## INDIA AND THE INDIAN MEDICAL SERVICES.

The Queen has approved of the following promotions:—Surgeon-Lieutenant-Colonels to be Brigade-Surgeon-Lieutenant-Colonels:—*Bengal Establishment:* Edgar Geer Russell. *Bombay Establishment:* William McConaghy and Thomas Stephenson Weir. Surgeon-Majors to be Surgeon-Lieutenant-Colonels:—*Bengal Establishment:* William Owen, Walter Conry, George Jerome Kelly, Dharmadas Basú, Alexander William Mackenzie, Jeremiah Mullane, Douglas Ffrench-Mullen, James Alexander Nelis, Aylmer Martin Crofts, James Crofts, and William Coates. *Madras Establishment:* Henry Augustus Fitzroy Nailer, and Nityananda Chatterjie. *Bombay Establishment:* William Keith Hatch, Hormasji Dadabhai Masini, and Kanóbá Ranchoddás Kirtikar. Surgeon-Captains to be Surgeon-Majors:—*Bengal Establishment:* Francis James Drury, Herbert Jekyl Dyson, Frederick Arthur Rogers, D.S.O., and Edward Richard William Charles Carroll. The Queen has also approved of the retirement from the Service of the under-mentioned officers:—Surgeon-Captain Frederic Hewlett Burton-Brown, Bengal Establishment, and Surgeon-Lieutenant Alfred Moore, Madras Establishment. Surgeon-Colonel E. Townsend, A.M.S., is brought on the Administrative Medical Staff of the Army, vice Surgeon-Major-General C. McD. Cuffe, transferred to the Home establishment. The services of the under-mentioned officers are replaced at the disposal of the Government of India, Home Department:—Surgeon-Captain J. Mulvany and Surgeon-Captain E. H. Condon. The services of Surgeon-Lieutenant P. N. O'G. Lalor (Madras) are placed temporarily at the disposal of the Foreign Department for employment on plague duty. The services of Surgeon-Lieutenant F. Wall (Madras) are placed temporarily at the disposal of the Foreign Department for famine duty.

## THE HEALTH OF THE SPANISH ARMY.

The medico-statistical report of the Spanish Army for the year 1894 has recently been made public in the *Revista de Sanidad Militar*, the contents being arranged under four separate headings as follows: (1) the Peninsula and its dependencies, (2) the island of Cuba, (3) the island of Puerto-Rico, and (4) the Philippine Islands. The average strength of the troops serving in the Peninsula and its dependencies, which comprise the posts of Ceuta and Melilla in Northern Africa together with the Balearic and Canary Islands, was 87,585 of all arms, but exclusive of the gendarmerie which is not under the control of the War Minister. During the year 38,872 soldiers were admitted for treatment into military or general hospitals, and the ratio of sickness was consequently returned as only 443·8 per 1000 per annum; but this unusually low proportion is due to the fact that no account is taken of the numerous, more or less slight, cases which are disposed of in the regimental infirmaries. The deaths amounted to 737, or 8·41 per 1000—a rate considerably in excess of that of most of the other European armies. The compiler of the report is careful to point out that a great deal of the mortality is caused by the preventable diseases which usually attend on defective hygiene, and seizes the opportunity of strenuously urging upon the authorities the necessity for sanitary reform in barracks and hospitals. In support of his argument he cites the case of the British army, of which, in the course of a few years, the annual death-rate was brought down from 17·5 per 1000 to 4·7. In Cuba the average strength, including 4088 gendarmes, was only 19,040, but this, of course, was prior to the insurrection which during the last two years has been such a drain on the military resources of the kingdom. The admissions into hospital numbered 11,404, and were therefore at the rate of 598·9 per 1000; but here, too, unimportant cases find no entrance into the statistics. There were 385 deaths in the course of the twelvemonth, yielding a ratio of 20·22 per 1000 of strength; but this alarming mortality was mainly owing to yellow fever, which was responsible for upwards of two-thirds of the total loss. In other respects the Queen of the Antilles maintained her pristine reputation as one of the most salubrious spots inside the inter-tropical zone. It is true that paludism was rather prevalent, but judging by the mortality of 0·31 per 1000 the type of the disease must have been remarkably benign. In the neighbouring island of Puerto-Rico the general health of the garrison was not so good. Out of an average strength of 3438 men there were 3926 admissions to hospital and ninety-six deaths, the rates respectively being 1142 and 27·92 per 1000. As in Cuba yellow fever caused the greatest damage, the mortality in 171 cases having been equal to 39·2 per cent. Paludal and venereal affections were the chief forms of disease. The average strength of the troops in the Philippines was 20,189, but only 2404 were Europeans, the remainder being natives of the archipelago. The sick-rate for the two classes combined was 510 per 1000, but for the Europeans alone it was 1152 per 1000. On the other hand, the death rate in the case of the latter was 8·49, whereas for the natives it was 12·48.

*Sickness and Mortality in the Spanish Army, 1894.*

| — | Per 1000 of strength. | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| | Peninsula and dependencies. | | Cuba. | | Puerto-Rico. | | Philippines. | |
| | Sick. | Died. | Sick. | Died. | Sick. | Died. | Sick. | Died. |
| Enteric fever ... | 6·96 | 1·70 | 1·31 | 0·47 | 1·45 | 0·58 | 1·88 | 0·89 |
| Pulmonary tuberculosis ... | 7·42 | 1·70 | 5·20 | 1·57 | 6·39 | 1·74 | 4·26 | 2·33 |
| Pneumonia, &c. | 12·10 | 1·34 | 1·10 | 0·10 | — | — | 1·04 | 0·39 |
| Paludism ... ... | 15·57 | 0·11 | 133·72 | 0·31 | 110·52 | 0·29 | 71·87 | 1·88 |
| Syphilis ... ... | 11·36 | 0·01 | 4·99 | — | 20·94 | — | 1·58 | — |
| Venereal diseases | 71·80 | — | 48·50 | — | 114·10 | — | 12·72 | — |
| Small-pox ... ... | 3·09 | 0·11 | 1·57 | 0·05 | 0·87 | 0·29 | 3·07 | 0·24 |
| Wounds, &c. ... | 7·01 | 0·14 | 6·30 | 0·11 | 7·85 | — | 8·76 | 0·84 |
| Suicide ... ... | — | 0·08 | — | — | — | 0·29 | — | — |
| Yellow fever ... | — | — | 42·76 | 13·94 | 43·73 | 19·48 | — | — |
| Other affections | 308·49 | 3·22 | 353·45 | 3·70 | 830·09 | 5·25 | 404·82 | 5·46 |
| Total ... ... | 443·8 | 8·41 | 598·9 | 20·25 | 1141·9 | 27·92 | 510·0 | 12·06 |
| Invalids— | | | | | | | | |
| Permanent... ... | 33·56 | | 5·62 | | 6·68 | | 10·90 | |
| Temporary ... | 24·71 | | 7·83 | | 20·65 | | 67·60* | |

* Europeans only.

## CHOLERA IN INDIA.

India has been terribly visited of late, with plague, pestilence, and famine, followed by earthquake. The accounts of the epidemic of plague are, we are glad to say, satisfactory; the health of Bombay is now good, and continues to improve. We regret to notice, however, in the Indian papers received by the last mail, that cholera has made its appearance at several Indian stations. It should be borne in mind, however, that this is the season at which it frequently does so. The disease has broken out in the lines of the 19th Hussars at Secunderabad. Seven cases of cholera have occurred at the Fountain Hotel, Mahableshwur, four of which proved fatal. Latest advices from that station report that no fresh cases have occurred there. There were fifteen deaths at Bombay reported during the week ending June 1st, and the disease is stated to be prevalent in the districts surrounding Jubbulpore. Cholera has also broken out in an epidemic form in Belgaum and its vicinity, thirty cases having occurred in two or three days.

## THE BOYLE SYSTEM OF VENTILATION FOR STEAMSHIPS.

This system, a descriptive pamphlet dealing with which we have received, has been severely and carefully tested for several years, and has been favourably reported on by naval and scientific authorities. It possesses double the ventilating power of previous forms of such apparatus, and these ventilators "have no moveable parts to get out of order." Messrs. Boyle have, it seems to us, arrived at a comparatively simple and economic solution of one of the most difficult problems in sanitation, and we look forward to the employment of it in our troop ships, or "hospital" ships when we get them.

The principles of ventilation are well known, but how to adopt these to climate, the speed of steamers, the limited space available, and such like contingencies are the desiderata. Again, when the medical aspect of the question is approached, and provision has to be made for sick and wounded persons, further difficulties have to be overcome. Messrs. Boyle have taken an initial step towards solving an important problem.

### THE DIAMOND JUBILEE HONOURS.

The names of the following medical officers appear among the list of Honours bestowed on the occasion of the completion of the sixtieth year of Her Majesty's reign:—Inspector-General of Hospitals and Fleets, H. F. Norbury, C.B., to be K.C.B. (Military); Inspector-General of Hospitals and Fleets J. J. L. Donnet, to be K.C.B. (Military); Inspector-General of Hospitals and Fleets H. Macdonnel, R.N., to be C.B. (Military); Surgeon-General C. A. Gordon, C.B., Hon. Physician to the Queen, to be K.C.B. (Military); Surgeon-Major-General C. Sibthorpe, I.M.S., to be C.B. (Military); Brigade-Surgeon-Lieutenant-Colonel G. W. McNalty, to be C.B. (Military); Surgeon-Major-General J. Jameson, Director-General, A.M.S., to be C.B. (Civil); Deputy-Inspector-General of Hospitals and Fleets H. C. Woods, to be a Member of the Fourth Class Royal Victorian Order; Surgeon-Major-General Hooper, President of the Medical Board, India Office, to be C.S.I.; Surgeon-Major-General Cleghorn, Director-General of the Indian Medical Service, to be C.S.I.

# Correspondence.

"Audi alteram partem."

## DRAFT BILL FOR THE REGISTRATION OF MIDWIFERY NURSES.

*To the Editors of* THE LANCET.

SIRS,—In your issue of June 19th, p. 1684, you kindly publish extracts from my above Draft Bill. Since sending it to you I have resolved to extend this Bill so as to include, not only midwifery, but also medical, surgical, and other nurses. I hope this will please all parties, and that we shall soon get rid of an important subject.

I now wish to ask through THE LANCET that the Secretary of each Medico-ethical Society, each Branch of the Brit. Med. Assoc., and each hospital committee and medical staff interested in this question shall now obtain a Copy of this Draft Bill and bring it before his members. I shall be glad to answer any questions. Copies of this Draft Bill may be obtained from my printers, Messrs. Hill and Co., 10, College-lane, Liverpool, at about the following prices, carriage paid: 25 copies, 5*s.*; 50 copies, 8*s.* 6*d.*; 100 copies, 12*s.*

May I at the same time request practitioners to send me a subscription to the Society, formed for the purpose of pushing this Bill through Parliament. Since 1890 I have expended out of my own pocket £373 13*s.* 8*d.* in opposing the five Midwives Bills. Since Feb. 10th, I have expended about £43. It will require a considerable sum—even to defray postage and printing—when I sent a copy of this draft Bill and a circular letter to all hospitals and Medical Societies, Colleges, Medical Schools, Universities, and Poor-law Guardians—i.e., some 1684 Boards of Guardians, 385 Medical Societies, and 1506 Hospitals, or a total of *at least* 3575 penny stamps required. I am more than willing to give my best time, services, and money, and the services of those in my house, but I cannot finance work which directly concerns each practitioner.

I am, yours truly,

Liverpool, June 21st, 1897. R. R. RENTOUL.

## "A METHOD OF UNITING THE DIVIDED INTESTINE."

*To the Editors of* THE LANCET.

SIRS,—Under the above heading the writer of a letter that appeared in THE LANCET of June 19th courteously acquits me of any want of originality. For this I thank him and beg to assure him that after a very careful search among all records and inquiries among many London surgeons I neither found nor heard of any article of his or of anybody else that described the operation I ventured to publish on May 22nd. Without a copy of the article in question it is impossible for me to know how much my operation resembles or differs from that of the American surgeon.

I am, Sirs, your obediently,

Harley-street, W., June 21st, 1897. G. LENTHAL CHEATLE.

*** The Society of Science, Letters, and Arts of London, to which Dr. Hartigan has sent his paper, no longer exists, and was, we are informed, a bogus institution.—ED. L.

## "RESPIRATORY SYMPTOMS OF TOBACCO POISONING."

*To the Editors of* THE LANCET.

SIRS,—A paper by Dr. Morrow under the above heading has recently appeared.[1] I may be permitted to state that some years ago I forwarded to THE LANCET a brief remark upon a case of gasping respiration, in which note the exhibition of the symptom, being commensurate in degree with the extent of tobacco consumption, was attributed solely to this habit, and appeared to be a variety of Cheyne-Stokes respiration (although somewhat departing from the normal type of such), certainly as being some kindred theme from the medullary gamut of lung rhythm. One point in my case was that the distressing symptom was confined to the first hours of bed and was peculiar to the horizontal position. Dr. George Herschell, a few years ago, published a case of laryngeal spasm the cause of which, in part, he referred to tobacco—a point of some interest in this *rapport*. In conclusion, seeing that tobacco may cause perversion of central function, as in Dr. Morrow's thesis, and since it may bring about change of nerve structure also, as in retinal atrophy, it might be worth while to consider and to search out how far this universally distributed luxury be a contributory factor in either the genesis or the development of tabes, general paralysis, indeed, in all diseases of nerve, central or peripheral, functional or structural, cerebral or spinal, sympathetic, vasomotor or trophic.—I am, Sirs, yours faithfully,

G. HASSALL HUNTLEY.

Lees-road, Oldham, June 7th, 1897.

## THE PLAGUE IN BOMBAY.

(FROM A CORRESPONDENT.)

### II.

MY communication which appeared in THE LANCET of March 27th dealt with some of the physical and social aspects of the city of Bombay from the point of view of a sanitary engineer, but no true appreciation of its present state, and the causes which led to it, can be arrived at without an outline of the governing body which controls the finances and the executive officers of the municipality. The Bombay municipality is the outcome of an experiment on a very large scale made twenty-five years ago by the Indian Government with a view to teach the Indians the art of managing their own local affairs. Based, of necessity, very largely on English models, its defects were soon apparent, and the assumption that the whole city could produce seventy-two representatives, all of them both able and willing to serve the best interests of the community gratuitously, was found to be erroneous. Bombay has never yet sent a fourth of that number of good men to the municipal council at any one time.

Among the seventy-two representatives sixteen are elected by the Bench of Justices, two by the Chamber of Commerce, two by the University, and sixteen by the Government. The corporation elects its own President, and from its members the standing committee of twelve is elected, eight of whom are nominated by the corporation and four by Government. They are paid for their attendance. In addition

[1] Brit. Med. Jour., June 5th, 1897.

to the usual executive officers and office staff, the Bombay municipality has a municipal commissioner, who in recent cases has been a collector and a magistrate from the Civil Service, but there is no law requiring him to belong to any branch of the Government service. He is appointed by the Governor of Bombay, and is the paid servant of the corporation, who have powers to dismiss him. His actual position has no parallel in any other corporate body. The entire executive power rests in the Commissioner. He may prescribe the duties of, and exercise supervision and control over, the acts and proceedings of the health officer, the executive engineer, the assessor, and their several subordinates, and is presumed to be capable of dealing with everything relating to these departments. The situation was none of his making, the pay is good, and under such circumstances it is not surprising if some of the Commissioners entered so far into the spirit of their office as to nullify by interference the responsibility of the executive officers. About a year ago the corporation voted a sum of Rs. 7000 for printing a report on drainage drawn up by the Commissioner for their instruction. It was the same official who had already opposed the making of certain experiments to provide scientific data that were wanting for the proper ventilation of the sewers. It is needless to say that a subject that has not yet been completely developed by the best engineers in India could gain nothing at the hands of an amateur without practical experience. The tendency of the Commissioner is naturally to guide and direct the corporation, and that of the corporation to have its own way. The latter has also strong parliamentary instincts and an innate taste for diplomacy, so the Commissioner's party and the "opposition" form the chief divisions of the corporation. No standard of education is required of members of the corporation. Their elections recall the methods in vogue fifty years ago in England, and many of them, after years of service, have only an elementary knowlege of the Municipal Act which forms their constitution. There are among their number a few men of the best type, whose unselfishness and singleness of purpose would be an honour to any municipal body, but their work is rendered doubly onerous by the opposition of their colleagues, whose salient points are the making of long and inconsequent speeches and the faculty of combining for voting purposes. Many of the members consider they have a right to recommend friends and relatives to subordinate positions in the municipal service, leaving the heads of departments little or no choice in the matter; others resent as an affront notices served upon them by the Health Department for breaches of conservancy rules. The executive officers are elected by the corporation.

The revenue administered by the municipality amounts to Rs. 6,300,000 per annum, and the population last year was 823,000, but after an existence of a quarter of a century the corporation generally does not understand its duties, and the present condition of the city is directly traceable to its administration. Shortly before the outbreak of the plague occurred the steadily increasing mortality in the city attracted the attention of the Grant College Medical Society, which, after three full meetings, passed three important resolutions which attributed the rise in mortality to the increasing foulness within and around the dwellings. The society made a careful investigation of the matter, which it presented in the form of a report to the corporation. Instead of promptly recognising the great value of this timely communication on the insanitary state of Bombay the leaders in talk derided the report and jeered at the society that sent it, and the corporation refused to allow it to be read. The epidemic that followed is now a matter of history.

When it was authoritatively established that plague was raging in the city a member of the corporation proposed to his colleagues the establishment of a vigilance committee, with full powers to incur any necessary expenditure for stamping out the disease, which was then confined to one or two districts only. The idea conveyed in the proposal was to establish a permanent Plague Committee, but the corporation agreed not to touch the business, but to place the whole responsibility on Government and hold Government responsible for everything, including, of course, the expense. Government, as has been seen, accepted the position, at least, as far as administration was concerned.

The limited area of the city and its commercial prosperity have resulted in a constant dearth of houses and an increase of rents unknown in the interior. After careful inquiry I learn that the net return on various classes of house property, including ground rent per annum, is as follows:—

| | Per cent. |
|---|---|
| Good chawls or dwellings for the labouring classes ... ... ... ... ... ... | 9·75 |
| Bad chawls ... ... ... ... ... | 15·2 |
| Shops in the fort and city ... ... ... | 14·7 to 39·9 |
| Tenement houses ... ... ... ... | 8·82 |
| Offices ... ... ... ... ... ... | 8·82 |
| Bungalows with gardens in the suburbs ... | 4·87 |

Many of the most insanitary habitations which have been destroyed by the Plague Committee as unfit for human habitation belonged to some of the wealthiest and most prominent citizens or to members of the corporation. Chawl property, consisting of buildings of from one to three storeys, constitutes two-thirds of the dwellings in Bombay. It was the supineness of the municipality in the early weeks of the plague that brought about the interference of the Government and the appointment of the Plague Committee under General Gatacre, which practically superseded the municipality in all matters dealing with the epidemic. The most powerful faction in the corporation is, of course, that of the house proprietors, who, at the beginning of this year, numbered thirty-one, or 43 per cent. of the whole. Of the twenty-six remaining Indian members it is reasonable to suppose that a certain number, although not owners of property, will vote for various reasons, not all connected with the public interest, on the side of the house proprietor on all questions affecting his interests. The landlords form a body which has the greatest personal interests at stake in the corporation, and, whatever they may have done for the rest of the citizens, they have given the strictest attention to their own affairs, and in this way the worst vices of structural arrangement of dwellings have been maintained, conservancy rules and regulations have been set at nought, and the water-supply has been misused until it is recognised as an important factor in contributing to the death-rate of the city. Bombay possesses one of the finest water-supplies in the world. It is derived from storage reservoirs among the hills to the north and north-east of the city, and it arrives by gravity. The three reservoirs—Vehar, Tulsi, and Tausa—were constructed in succession to meet the growing consumption of the city, which now receives about 42 gallons per head per day of water collected during the five months of rain and stored during the seven dry months. The actual consumption of water by Indian populations has been carefully noted by many observers—that is to say, the amount actually used by the people. What they will waste, if unchecked, is limited only by their facilities. In Cawnpore the maximum average consumption per head per day was 7½ gallons, including that used for flushing the street gutters before the construction of the waterworks. At that time all water for domestic use had to be drawn from wells having a depth of from thirty-five to fifty-five feet. After the waterworks had been in use for three years the average daily consumption of water from the pipes was 5·35 gallons for all purposes. The majority of the Indian people wear very little clothing. Their bedding is scanty, and they have no table linen. Their industries are established near rivers, wells, or tanks, and do not yet depend on water-works supplies. From information recently obtained the consumption of pipe water per head per day in Agra is 6·44 gallons; in Ahmedabad, 10·0; Delhi, 6·0; Simla, 8·0; Lahore, 7·29; Hyderabad (Sind), 9·6; Colombo, 19·0; Quetta, 20·0; Ajmere, 5·0; Peshawar, 5·83; Madras, 16·0; Karachi, 23·8; and Bandra, 2·12 gallons. Madras and Karachi are sewered, and have sewage farms which practically purchase the sewage effluents. Bandra has to pay Bombay 12 annas per 1000 gallons of water supplied from the waterworks of the latter town, and the consumption, as shown above, averages only 2·12 gallons per head per day. The Bombay supply, averaging 42 gallons per head per day, indicates unchecked waste on an enormous scale. This waste has been the subject of annual protests on the part of the health officer, who said that the soil had become waterlogged, that 4,000,000 gallons of the daily supply were not accounted for at the sewer outfall, and that the rate of mortality was steadily rising. Every known method of check upon waste has been determinedly opposed by the corporation, who, so long as they paid their rates by assessment, could waste water in gardens and stables without check. The result is that the cost of waterworks has been increased

until the water has to be charged when sold by meter at the rate of 12 annas per 1000 gallons, while water at Cawnpore, Agra, Delhi, and Lucknow, which is pumped from rivers and again pumped into the mains, is sold at 4 annas per 1000 gallons. If waste were rigidly checked and the surplus water were sold for irrigation it would be possible to lower the price of water in Bombay. In 67 large towns in Europe, all of them sewered, the average daily consumption of water per head is 20·1 gallons, and they have among them 33,988 water meters. Two years ago the filter beds serving Malabar Hill, the most fashionable suburb of Bombay, were found to be in a horrible condition from neglect. The reservoir water was fouled in its passage through them, and the water engineer, who was absent on leave, was severely censured by the corporation. On his return he produced official correspondence proving that the corporation had refused to sanction the expenditure for cleansing the filters. This gentleman took the first opportunity to find another place.

Interfering with the duties and responsibilities of its executive officers is an incorrigible fault of the Bombay corporation. The construction of buildings by unqualified persons has led to frequent and fatal accidents, for every Indian who can pay for a new house, or even an alteration, considers himself qualified to design it with the aid of a foreman builder, whose advice is, of course, gratis. House property is bought without any proper survey, no questions are asked provided the price is low enough, and storeys are added regardless of the state of the lower part of a building. This went on for years without any movement on the part of the corporation either to check builders or to provide a salvage corps to rescue the victims. This scandal might have continued had not the daily papers entered a vigorous protest against the municipality on an occasion when their engineer stopped the search in the *débris* of a fallen house for bodies, dead or alive, at nightfall, on the pretext that it was dangerous. The defective constitution of the corporation of Bombay seems to have penetrated all its committees, which, as their numbers increase, seem to lose all individual responsibility. Instead of thrashing out the question before them on its merits these committees divide deliberately into factions and contend for the orator who is most likely to influence votes when the time comes for making resolutions. This taste for what is supposed to be eloquence is a very common vice among public men in India. It has had the effect of keeping capable European business men out of the municipal council. They look on it as a waste of time. The Europeans who at present serve as councillors are mostly nominees of the Government or of certain public institutions.

The recent drastic treatment of the Calcutta corporation by the Lieutenant-Governor of Bengal has led the public to indulge in the hope that in view of recent events and of its past history important changes may be introduced at an early date into the constitution of the Bombay municipality. There is another corporation in Bombay from which many useful lessons might be derived. The Bombay Port Trust is administered by a board of thirteen trustees, six of whom are elected by the Chamber of Commerce and seven by the Government. The board administers an annual revenue of about Rs. 5,000,000, and its meetings are remarkable for an absence of speechifying and a capacity for getting through work. Such a body could not be brought together in India by any popular election. The experience of a quarter of a century of municipal administration in Bombay has proved that no body composed principally of Indians can be counted on to initiate and apply vigorously the regulations that are necessary for the well-being of a densely crowded city. Their feelings are on the side of their friends and constituents, and the latter are ever ready to claim the ægis of religious custom—and consequently toleration—for every insanitary habit. This was the plea that was brought forward against the closing of a graveyard in the heart of the town in which victims of the plague were being buried a few weeks ago. Religious custom also required that about twenty-eight hospitals should be constructed in and around Bombay to receive plague patients of the various communities, many of whom would have been ceremonially defiled by being sick or dying in the same room with people of another caste. Each of these hospitals had its own staff even if it contained only one patient. Caste prejudice enters largely into the details of sanitary engineering. The sweeper, who removes nightsoil from dwellings, is looked down on by nearly every community. Neither Parsee, Hindu, nor Muslim will allow him to enter his house. The domestic latrines are so arranged that the sweeper can only approach them from without. They are consequently never properly cleansed, and if any member of the family should contract any disease of a contagious character the latrine plays an important part in the spread of the disease.

Complete freedom of movement without passports, and the enjoyment of his "customs," good and bad, almost without restriction, have combined to render the Indian averse to all change and impatient under new conditions. He does not suspect that in some other countries an epidemic of plague would have brought the city under martial law, with all its summary methods of procedure.

The Bombay municipality as at present constituted is quite unfit to manage the affairs of the city. It has failed signally in the management of the water-supply, the drainage, and the conservancy of the municipal area. The commissioner has too much power and too little—too much for his technical knowledge and too little for the knowledge of public business he brings to his task. He arrives profoundly ignorant of many things he is called upon to adjudicate, and at the end of a five years' apprenticeship he is liable to be called to other duties when he is of most use to the city, to give place to another man as little *au fait* as he was at first in the work.

As the need of good government increases with the population—which cannot spread freely—the present time offers an excellent occasion for a complete reform of the municipal constitution of Bombay. It is no question of expelling the Indian, for without his aid local self-government could not succeed completely. Means must be found to attract the best men—native and foreign—to keep down the dangerous element to a minimum and to increase individual responsibility all round. There is no lack of good material for a governing body in Bombay. What is wanted is the means to get it together.

Bombay, May 15th, 1897.

## MANCHESTER.

(FROM OUR OWN CORRESPONDENT.)

### *Overcrowding in Red Bank.*

THOUGH much has been, and is still being done, in Manchester to prevent overcrowding and to open out the slums of the city, such cases as the following show that the work is still far from completion. An inquest was held at the City Coroner's Court on Monday week on the bodies of the twin children of a Polish Jewess living in a court off Red Bank. These infants were said to have been healthy at birth, three weeks before. Their bodies were in a dirty, neglected condition, and "bore a number of sores." One, a boy, weighed 4 lb. 1 oz., and the other, a girl, 3½ lb., instead of about 9 lb. each. The boy died from cerebral hæmorrhage, and the girl "from lack of food." The woman had been deserted by her husband, but had for some time been living with another man, a compatriot, and four children, in a room 9 ft. by 6 ft. This district is largely occupied by the poorest of poor Jews, most of them foreigners, many, like the mother of these children, unable to speak English, living sometimes in squalid abundance, at others in a state of semi-starvation, but almost invariably with persons and dwellings disgustingly filthy. And yet, as Dr. Niven tells us, the death-rate among the Jews in Manchester, is remarkably low.

### *The City Industrial Schools.*

The fiftieth annual report of the Manchester Certified Industrial Schools has just been issued, and shows work valuable to the community as well as to those rescued from lives of wretchedness and crime. The admissions during the year have been 145. At the school at Ardwick there are 51 boys, and 73 at the Barnes Home a few miles out of Manchester, while at Sale there are 21 girls. Of these, 5 boys were found begging; 71 boys and 12 girls were found wandering without proper home or guardianship; 26 boys and 3 girls were charged with theft or living with reputed thieves; 12 boys and 3 girls were sent to the schools as incorrigible; 8 boys and 1 girl were charged under the Elementary Education Act: and 2 boys and 2 girls were found living in houses of ill-fame. In the three schools there

are now 573 boys and girls, 100 of the latter being at Sale. During the past four years 485 boys have been discharged, and 393 are stated to be doing well. Coming, as they do in most cases from the lowest stratum of the "residuum," this is perhaps as good a record as could be looked for.

*Workhouse Dietary.*

Attempts have been made from time to time by the guardians of the Manchester Unions to improve the dietary and avoid the waste complained of under the present system. Their well-meant efforts, however, have always been defeated by the Local Government Board, as they would have disturbed the rigid uniformity now in favour, which, though bad for the ratepayers and not beneficial to the inmates of the workhouses, gives perhaps less trouble to clerks and officials than would follow the change. At Blackburn on Saturday week the guardians discussed this question. One said there could be no waste when "three meals daily only cost fourpence per head." Another said that he and other members of the Farm Committee "had seen five 18-gallon barrels of waste food taken to the swill-tub." A lady guardian said the root of the matter lay in a fixed dietary scale, and that as long as it was imposed "there was bound to be waste." This opinion is widespread among those who see the practical working of the present system, but as it is stereotyped there is no doubt great reluctance felt in breaking it up, even though its use is attended by manifest evils. Fourpence does not seem an extravagant sum for three meals, and the workhouse inmates must surely have their food presented in a very unattractive form if so much goes to the "swill-tub."

*The Owens College.*

Those interested in the successful progress of the Owens College, are naturally much gratified by the report of the Treasury Commission of Inspection of the University Colleges in Great Britain. The work done at Owens College is reported on in detail with a view to the guidance of the Lords of the Treasury, who are to have £25,000 a year at their disposal for grants, instead of £15,000. The commissioners recommend that the proposed maximum sum of £3000 be given to the Owens College, and, "as their proposed division leaves a balance of £500, they suggest that this sum also should go to the Owens College, in recognition of its pre-eminence. The Lords of the Treasury agree to this."

*Explosion at a Chemical Manufactory.*

On the 15th inst. a violent explosion, causing the loss of two lives, took place in Manchester at the works of a manufacturing chemist and tar and naphtha distiller. A still, 14 ft. deep and 12 ft. in diameter, containing 30 tons of oil, was blown bodily from its setting of brickwork, and carried over a high wall to the opposite side of an adjoining street. There was a tremendous report, and flames were seen rising from a portion of the works. The burning oil was scattered in all directions, and some of it fell on the vats and tanks that are distributed about the works, containing oil and pitch, setting them on fire. The bodies of the two men killed were so blackened and disfigured as to be almost unrecognisable. They must have been killed instantaneously. The accident is said to have been caused by the stoppage of a condenser in the still. Several other men had narrow escapes. There was abundant help from the fire brigade and private appliances, and the fire was extinguished in about half an hour. No doubt careful precautions against fire are the rule, and with such inflammable materials "distributed about the works"—according to the report given in the *Manchester Guardian*—they are not unnecessary.

*Manchester Therapeutical Society.*

On Wednesday, June 16th, the first general meeting of the above society was held at the Owens College. Professor Leech delivered an address upon the objects of the society, the considerations which had led to its formation, and the lines of future work. A number of new drugs and preparations were exhibited. Rules for the management of the society were adopted and the following officers elected for the session 1897-98. President: Professor D. J. Leech. Vice-Presidents: Professor Dixon Mann and Professor Delépine. Hon. Treasurer: Dr. R. T. Williamson. Hon. Secretary: Dr. R. B. Wild. Committee: Dr. Bury, Dr. Coutts, Dr. Hopkinson, Dr. Kelynack, Dr. Steell, and Dr. Wilkinson.

June 22nd.

## NORTHERN COUNTIES NOTES.

(FROM OUR OWN CORRESPONDENT.)

*The Royal Infirmary, Newcastle.*

MR. RILEY LORD has accomplished his object and raised £100,000 for the rebuilding of the Royal Infirmary. For years the necessity of rebuilding the infirmary has been apparent and talked of, but nothing was done. It is entirely due to the energy and perseverance of Mr. Riley Lord, the ex-mayor, that funds have been raised enabling the committee to carry out their long-cherished object. It will require a larger sum than that already raised to build a new infirmary, but it will be forthcoming in due time. The raising of £100,000 to build a new infirmary in commemoration of the Queen's long reign is perhaps the largest effort which has been accomplished in England out of London.

*Drunk or Ill?*

One day last week a young gentleman was arrested in one of the principal streets of Newcastle-upon-Tyne and locked up on the charge of being drunk and incapable. At the station he requested to see a medical man, but this was refused. After having his valuables taken from him and being confined for some hours in a police-cell he was allowed to go home. On Friday last the case was investigated by the magistrates, when an inspector, three sergeants, and four privates swore the youth was drunk when arrested. On the other hand, it was sworn that the accused was a life-long teetotaler, that he had never tasted alcohol in his life, and that he was subject to fits. The magistrates dismissed the case and censured the police. This is a very significant case. That a policeman should make a mistake where the question of illness or drunkenness arises is not to be wondered at; but that eight men, some of them experienced policemen, should all swear positively that a sick man was drunk is, to say the least of it, very disquieting. That the accused should not have been allowed to see his own medical man as he wished is simply a scandal of the gravest kind. We often hear of the uncorroborated evidence of a policeman, but in this case no fewer than seven corroborated, and yet their evidence proved to be incorrect.

Newcastle-upon-Tyne, June 23rd.

## SCOTLAND.

(FROM OUR OWN CORRESPONDENTS.)

*Royal College of Surgeons of Edinburgh: The Queen's Diamond Jubilee.*

IN commemoration of the Queen's Diamond Jubilee a reception was held by the Royal College of Surgeons of Edinburgh on the afternoon of the 22nd inst., to which the members of the medical profession in Edinburgh and the heads of public bodies were invited. Refreshments were served in the hall. The conservator, Mr. Cathcart, and other Fellows of the College, attended in the museum to explain the specimens, and various demonstrations of the Roentgen rays were given. In the library were placed a series of photographs of cases which had been elucidated by the rays in the Edinburgh Royal Infirmary. In one of the examination rooms the process of using the rays was shown by Dr. Dawson Turner, medical electrician to the Edinburgh Royal Infirmary, and in another room lantern views of cases elucidated by the rays were shown, with explanations by Dr. Scot Skirving. The guests, about 600 in number, included ladies, and were received by the president, Emeritus Professor Struthers, and the council. The College, the most ancient of all the medical corporations in the United Kingdom, is to be congratulated on its action in thus gathering under its roof the medical profession of the city on the historic occasion of the completion of the sixtieth year of Her Majesty's reign, a period during which such great progress has been made in medical science.

*Glasgow District Asylum at Gartloch.*

This institution has now been completed and declared open. It consists of two parts, asylum and hospital. The former is for chronic and incurable patients and contains 380 beds. It consists of four large blocks, three storeys in height, with boot and bath rooms attached. These blocks are connected with the administrative and official departments by long corridors, under which are subways where are

found the heating pipes, water-supply pipes, and electric light cables. The hospital is a separate building, and has a separate kitchen and dining hall, while for asylum and hospital there is a common recreation room. It contains 150 beds and is principally of one storey. In it are the admission wards, wards for the treatment of intercurrent bodily diseases in the insane, wards for old and feeble cases, and infectious blocks. The whole buildings have been suitably furnished and are well adapted for their purpose. The lighting throughout is electric, the heating is by radiators, and the water-supply is from the Glasgow mains. The asylum is situated about seven miles from Glasgow, on an estate of 400 acres, and is built in the Francois Premier style of architecture from the plans of Messrs. Thomson and Sandilands, of Glasgow. The total cost will not fall much short of £200,000. The physician superintendent is Dr. L. R. Oswald.

*Glasgow University.*

The following gentlemen are understood to be candidates for the chair of Materia Medica and Therapeutics vacant by the death of Professor Charteris—viz., Dr. J. W. Allan, assistant physician, Royal Infirmary; Dr. C. O. Hawthorne, lecturer on Materia Medica in the University, and assistant physician, Western Infirmary; Dr. William MacLennan, University assistant to the late Professor Charteris; and Dr. Alex. Napier, physician to the Victoria Infirmary, and formerly Professor of Materia Medica in Anderson's College Medical School.

*Consumption Hospitals for Scotland.*

The Medical Board of Advisers has at last issued a statement in support of Mr. Quarrier's appeal for funds to carry out his scheme. The committee draws attention to the fact that some 7000 persons die annually in Scotland from consumption of the lungs, 1400 of these being registered in Glasgow. It is then stated that the disease undoubtedly spreads by infection, more especially in the unwholesome atmosphere of the crowded houses of the poor, and that there is every reason to believe that many cases are curable if treated in the early stage. The committee gives a decided opinion in favour of the situation and arrangement and equipment of the hospital already erected, and recommends to the public the scheme in which it is contemplated to erect six other hospitals at a further expense of £40,000. The committee also express their approval of the arrangements which Mr. Quarrier is making for the management of the hospital and for the medical supervision of the patients. It is so far satisfactory to know that the committee is actually in operation, and no one can doubt their interest both in the public welfare and the advancement of medical science. Their statement is not, however, beyond criticism. Mr. Quarrier's published scheme included the erection of a dispensary in Glasgow at a cost of £3000. Do the committee approve of this or do they not? In their report they say: "It will be necessary to provide in Glasgow a central office where patients recommended may be examined," but this is a very different thing from Mr. Quarrier's plan. Again, it would appear from the committee's report that the arrangements for the medical supervision of patients are entirely in Mr. Quarrier's hands. His plans so far are approved by the committee, but what guarantee is there that those plans will be adhered to, or that, as further arrangements are needed, these will meet the committee's views; and if further arrangements are unsatisfactory, what will happen? Apparently, the committee has no authority or power in the matter. It may every now and then have the opportunity of expressing approval of what has been done, but its existence is purely *ex gratiâ*. There is no need to impugn Mr. Quarrier's disinterestedness or good faith. The question is one of public policy, and a policy which advocates the raising of a large sum of money for the erection of hospitals for the phthisical, the administrative and medical management of which are to be practically at the pleasure of one man, is one which lends itself to comment. Even supposing that Mr. Quarrier is likely always to pursue an enlightened policy and to defer to his board of advisers, what guarantee can be given for his successor? If, when all the money is raised, the board of advisers find they are no longer heeded, surely they ought not to be much surprised. It may fairly be contended that their present position has this radical weakness. They bear responsibility—for undoubtedly subscriptions will be given under the influence of their names—but the responsibility is not associated with authority. Such a severance is most improper, and means at least the possibility of misunderstandings and of disaster.

*Congress of Sanitary Inspectors Association of Scotland.*

The annual congress of this association took place in the town-hall, Aberdeen, on June 18th, under the presidency of Mr. K. Cameron, chief sanitary inspector of the city of Aberdeen. About sixty delegates, representing all parts of Scotland, attended. The most interesting papers read were: (1) by Mr. W. Mackenzie, county sanitary inspector of Ross and Cromarty, entitled Notes on the Sanitary Conditions existing in the Outer Hebrides, as exemplified in Lewis (which was followed by a resolution calling the attention of the Secretary for Scotland to the public scandal arising from the present miserable housing of the people in the Outer Hebrides and Western Islands), and (2) by Mr. A. T. Gordon Beveridge, M.B., C.M. Aberd., a member of the Aberdeen town council, on the Housing of the Working Classes. The members were afterwards treated by the town council to a drive round the city and suburbs and entertained in the evening to dinner in the Grand Hotel, Dr. A. T. G. Beveridge presiding.

*Hospital Saturday in Aberdeen.*

The demonstration arranged by the amalgamated friendly societies took place on June 18th. The weather was favourable and the procession through the streets was very successful. The attendance at the athletic games, &c., in Duthie Park, however, amounted only to 10,000 persons, but it is hoped that the total free proceeds from all sources, including subscriptions, will be in accordance with expectation.

June 23rd.

## IRELAND.

(FROM OUR OWN CORRESPONDENTS.)

*The Health of Dublin.*

A GREAT improvement in the health statistics of Dublin was recorded by the Registrar-General's report for the week ending June 12th. Notwithstanding that the epidemic of children's diseases—measles, scarlet fever, and whooping-cough—has not entirely disappeared, the number of deaths registered was below the decennial average. At the meeting of the Public Health Committee on Tuesday, June 15th, Sir Charles Cameron reported the death-rate to be 23·4 per 1000 persons living, the mean rate being 25·7. A novel feature in this report is a sort of epitome of the sanitary work performed during the week. From the latter it appears that 987 houses, 5108 rooms, 65 slaughter-houses, 42 dairy-yards, and 22 nightly lodging-houses were officially inspected. The registrar of Cork-street Fever Hospital, at the last meeting of the Managing Committee, reported a decline in the epidemic of measles. Referring to diphtheria, he remarked that this disease, hitherto sporadic, was showing evident tendencies to assume an epidemic character. The use of antitoxin in early cases was reported as having proved very satisfactory. The conference recently held in the Public Health Buildings of representative citizens of Dublin, to consider the question of providing cheap and healthy dwellings for the very poor, was entirely successful. The Right Hon. Joseph Meade, who presided, made some valuable practical suggestions, while Mr. Adam Findlater in his speech remarked that the mortality during the early months of this year was terribly high, the deaths not being confined to one class, but having spread from the slums to the wealthier portions of the city. An influential committee was appointed to carry out the object of the conference.

*Jubilee Honours to Medical Men in Ireland.*

His Excellency the Lord-Lieutenant has intimated that, with the approval of Her Majesty, the honour of knighthood will be conferred on Dr. George Duffey, the President of the Royal College of Physicians of Ireland, and on Mr. William Thomson, the President of the Royal College of Surgeons in Ireland.

*The Richmond District Lunatic Asylum.*

At the fortnightly meeting of governors, which took place on June 15th, Mr. Conolly Norman, the resident medical superintendent, reported that there were now on the asylum books a total of 1812 patients, being 712 above the original nominal limits of legitimate accommodation. He mentioned

that since the last board meeting three female inmates had been attacked with beri-beri.

*The Accommodation in the Belfast Police Cells.*

At an inquest held recently in Belfast in reference to the death of a woman which took place in the Union Infirmary on June 12th, some interesting points were brought out in evidence in reference to the prisoners' cells at the Central Police Office. It would appear that the woman was arrested for drunkenness on June 5th and taken to the police office, whence on the next morning she was removed to the Union Infirmary, where she died six days later from pneumonia. No blame was attached to the medical man or to the police, but it came out in the inquiry, from police evidence, that the accommodation in the cells is the same now as it was thirty years ago, although Belfast has since trebled its size. Again, it seems that 10,000 persons pass through the hands of the police at the central office each year, and it would seem that, owing to the very limited accommodation, there is hardly sufficient opportunity for exercising discretion in reference to the treatment of special cases. There would appear to be no special room set apart for the watching of cases where perhaps, in addition to the effect of drink, there may be also surgical or medical complications. There are no female attendants for female patients, neither are there restoratives ready at hand nor beds available for prisoners taken suddenly ill. The jury found that the woman died from pneumonia, and approved of the action of the medical man and police, but added the following riders to their verdict: "(1) That the cells condemned by the corporation themselves should be rebuilt immediately out of the money already voted for that purpose twelve months ago; (2) that female warders should be appointed to relieve the police from personal attendance on female prisoners; (3) that simple restoratives should be available in the cells in cases of extremity; and (4) that proper beds in proper apartments be provided for such cases as that before them."

*The Royal Victoria Hospital, Belfast.*

The scheme which was started last November, of the people of Belfast honouring the Queen in her Jubilee year by raising £100,000 to build a new hospital, is, I am most gratified to announce, a complete success, as the list of subscribers published this Jubilee day (June 22nd) shows that the whole sum originally aimed at—£100,000—has been raised and additional sums are still coming in. Through the exertions of the Lord Mayor (Mr. Pirrie) the Queen has graciously consented, through the Home Secretary, to allow this new hospital to be called the Royal Victoria Hospital. The greatest praise is due to the Lady Mayoress, to whose constant energy, tact, and popularity the success of this hospital scheme is almost entirely due. The new hospital, built on modern plans, will unquestionably be an immense gain, not only to the city of Belfast, the population of which is now 300,000, but also to the flourishing medical school which it will tend greatly to strengthen on the clinical side.

June 22nd.

## PARIS.

(FROM OUR OWN CORRESPONDENT.)

*Rabies and the Academy of Medicine.*

AT the Academy of Medicine a discussion has just arisen which is most likely only the beginning of an argumentative war as to the Pasteur Institute and the value of the anti-rabic inoculations. These latter have always had bitter enemies in France, and the communication which M. Rendu has just made to the Academy has given them new courage. M. Rendu reported a case of acute ascending paralysis brought on by the anti-rabic inoculations. The patient was a post-mortem room porter at a hospital, who in the course of examining the body of a man dead from acute rabies pricked his finger as he was cutting into the pancreas. Although the wound was carefully washed with an antiseptic solution he betook himself to the Pasteur Institute, and, starting on March 22nd, underwent the regular course of anti-rabic treatment. Quite suddenly on April 1st he developed rigors and fever, which grew worse on the following day. The patient took to his bed, and the gradual progress of the disease, accompanied by the most alarming symptoms, was observed, paraplegia of first the lower and then the upper limbs, paralysis of the sphincter, vomiting, distress, dyspnœa, tachycardia, &c., but with only a slight rise of temperature. Nevertheless, the injections were continued in doses of 2 c.c. per diem and the patient was cupped and treated with antipyrin. On the seventh day after the onset of the symptoms a marked improvement set in, and he was completely restored to health in three weeks' time. The patient was sent for a month to the country, and is at present engaged in his work in the theatre. M. Rendu does not consider this a spontaneous case of paralytic rabies: the period of incubation was too short; the clinical course did not resemble that of the disease in question; there were no other symptoms of rabies; and, besides, paralytic rabies is always fatal. M. Rendu rejects equally the theory of an acute ascending paralysis of toxic orgin. For if the toxins had been introduced by the inoculations it is impossible to explain how the patient got well in the face of the continuance of these same inoculations. M. Rendu can only see one explanation, and that is that the patient, placed as he was by the exigencies of his occupation in very infected surroundings, was in a morbid state, which made him specially receptive. In this state the anti-rabic toxins might have determined an attack of myelitis. M. Roux, the director of the Pasteur Institute, replied to M. Rendu. For himself he did not consider the anti rabic emulsions injected at the beginning of the treatment were capable of bringing about nervous crises, for they were always tested on very sensitive animals. He had seen two cases of paraplegia similar to that reported by M. Rendu, and he was certain that the anti-rabic treatment had nothing to do with them. These two cases, the only ones noted at the Institute since its foundation out of 19,000 cases treated, permitted him to affirm that there was no relation of cause and effect between the anti-rabic inoculations and these cases of paraplegia. Statistics like those of the Institute proved up to the hilt, he added, the absolute harmlessness of the anti-rabic treatment. M. Laveran had seen some years ago a case similar. It occurred in the Val-de-Grâce, and was considered an abortive form of rabies. Paralytic attacks of this kind did not always terminate in death. M. Grancher remarked that at the commencement of this system of treatment at the Institute a number of cases of so-called paralytic rabies were observed which had no canine origin. Generally they had to do with hysteria or alcoholism. M. Rendu's patient might be the subject of some form of neurosis or intoxication. M. Brouardel said that he had never yet seen rabies transmitted from man to man by inoculation. On the other hand, it is not uncommon for an ascending myelitis to follow a post-mortem prick. The case of M. Rendu should be classed as pseudo-rabies. Paralytic rabies does occur in men, and Morgagni was the first to describe it. M. Dumont Pallier remarked that the discussion which had arisen out of the communication of M. Rendu was of the highest importance. Could the anti-rabic treatment after the Pasteur method be held guilty or no? This question must be cleared up, and he proposed to submit it to the Academy

*The Microbe of Seborrhœa.*

The excitement caused by the discovery of M. Sabouraud of the microbe of seborrhœa, its identification with that found in cases of falling of the hair, its *rôle* in the etiology of baldness, and finally the researches by which M. Sabouraud was enabled to produce baldness in a rabbit by injecting a culture of his microbe, was so great among dermatologists that it was unanimously decided to hold a special sitting at an interval of a month from M. Sabouraud's first communication to discuss the matter. This meeting has just been held and was somewhat stormy. M. Brocq remarked that the seat of the bacillus was not in the hair follicle, and that its action on the skin could not be explained. M. Sabouraud had said it was from a toxin, but from his experiments the toxin apparently worked at a distance from the hair follicles at least in the rabbit, while in man it acted locally if the bacillus was always the cause of the seborrhœa and the baldness. All clinicians knew that temperament played an important part in the matter of seborrhœa and alopecia. As regards the latter, the arthritic diathesis had to be considered; as regards the former, the lymphatic. In a non-arthritic person baldness never occurred, not even when abundant seborrhœa was present. Clinically, we must not confound seborrhœa and baldness. If baldness was always due to a microbe it should be easily contagious, and it was not so except as accessory to some other disease. M. Jacquet considered

that the rabbit was not a good subject in this matter, for baldness can be easily produced in this animal by the simple application of bisulphate of calcium. M. Darier stated the histological analogies between seborrhœa and baldness, but as the results on the clinical side were different from those of the laboratories it was impossible without further information to identify the two lesions. M. Barbe said that many seborrhœic patients never had the least amount of falling off of the hair. Other speakers followed, all more or less in opposition. M. Sabouraud, in reply, reminded members that when Pasteur laid the results of his fermentation studies before the Academy everyone was against him. After thirty years, he added, all the discourses of the opposition are not worth one single Pasteur flask. So it would be with his researches—truth would come out, not by mere discourses, but by experience and experiments in the Pasteur way.

*The Town Ambulances.*

M. Paul Strauss, President of the Commission on Urban Ambulances, has just presented his report to the Municipal Council. The report recommends that every ambulance should be accompanied by a medical man and a hospital orderly. To carry out this scheme there must be four surgeons for every station and three orderlies for every ambulance. The latter will be drawn by two horses. Sixty "avertisseurs d'accidents" will be stationed in the streets, so as to be at the service of the public, in situations where they are considered most needed. The prefect of police will be invited to warn the ambulance stations whenever a fire breaks out. Before organising this system for the entire town the Commission have decided to make a practical trial at the Hospital of St. Louis. It was at this hospital that the experiments in First Aid were tried in accordance with a report drawn up by Professor Terrier (1) the surgeon on duty is in constant telephonic communication with the hospital, and a rota for duty is decided upon among the other surgeons on the list; and (2) a surgical guard is mounted by both the intern and extern pupils in surgery, and there must be at the hospital always one intern and two externs on duty. The rest of the staff, both nurses and porters, must have special surgical training. The operating-room is provided with all necessaries in the way of instruments, dressings, warming, lighting, &c. In taking over the charge of these urban ambulances the Municipal Council decided to build two new stations, the one on the right and the other on the left bank of the river; but the Commission proposed an even more thorough scheme—namely, three new stations on the right bank. One of these is in process of construction in the Rue Caulaincourt, another at the St. Honoré Market, and the third is at the St. Louis Hospital. The station on the left bank will be in an annexe of the Hôtel Dieu. The director of municipal affairs has, besides, taken steps to coördinate the ambulance service by the creation of a central office situated at the headquarters of the sanitary authorities. It will be on duty night and day, and thanks to it an ambulance will always come in answer to a call. This central service completes the connexion between the ambulance societies and the hospitals.

*The Congress of Surgery.*

The eleventh congress of the French Association of Surgery will open at Paris at the Faculty of Medicine on Monday, Oct. 18th, at 2 o'clock, under the presidency of Dr. Gross, Professor of the Faculty of Medicine at Nancy. Two questions have been submitted to the congress: first, Contusions of the Abdomen, by M. Demons, of Bordeaux; second, the Indication for Operation and Treatment of Cancer of the Rectum, by MM. Quenu and Hartmann, of Paris. Those intending to attend the congress or read papers are requested to send the titles and a short *résumé* of their papers, by Aug. 17th at the latest, to the general secretary, M. L. Picque, 8, Rue d'Isly, Paris.

June 22nd.

## ROME.

(FROM OUR OWN CORRESPONDENT.)

*Premature Burial.*

THIS subject has a peculiar terror for Italians. In cholera epidemics, particularly in those of 1866 and 1877, "apparent death" has led to the victim being put in a coffin and carried to the cemetery, where, by sheer accident, he has been rescued from the most horrible of fates in the nick of time. In his memorable treatise, written some twenty years ago, the greatest of recent Italian anatomists, the Florentine Filippo Pacini (discoverer of the "Corpuscula Paciniana"), describes several cases of "morte apparente" that came before him and the means by which he "restored" the "life" which had not really been extinguished. Since then physicians have been careful to allow some time to pass in cases of cholera collapse before granting certificates of death, and have practised Pacini's method of the intravenous injection of hot water charged with bay salt in solution before giving up all hope of bringing back the patient to conscious life. In its obituary notice of Pacini, who died in 1883, THE LANCET reviewed the treatise referred to, and, notably in the cholera epidemic which decimated some Italian cities in the following year, drew attention to the check imposed on the hasty burials so common in such visitations before Pacini's time. The rapid spread of cremation and the dread that under that system the "apparently dead" may be "disposed of" before they have a chance of regaining conscious life has, however, revived the subject, never altogether quite absent from the Italian mind, and at Milan on Thursday, the 10th inst., Signor Di Santostefano exhibited to an intensely interested audience an apparatus designed to give the reputed "corpse" a chance of receiving assistance. The apparatus, designed, however, for cases of interment, seems modelled upon that invented recently by Count Michael Karnichi, of Warsaw, who was specially induced to contrive it by the risk of inhumation during trance. As described by Signor Di Santostefano the apparatus brought under the notice of the Milanese audience is the following:—A tube is fitted to the lid of the coffin in which the body is laid and penetrates the lid by a small circular aperture situated just above the sternum of the body and connecting at the surface of the ground with a little metal box. Down through the tube descends a white metallic rod terminated by a ball which just touches the sternum of the "corpse." Supposing a sufferer from catalepsy to have been interred, he must, on coming to himself, as his first act draw breath, move a hand, or his whole body; he will thus inevitably displace the ball. The box situated on the surface of the ground will be overturned, giving air and light to the coffin; it will also set in motion a powerful electric bell, and will raise to the height of a metre and a half from the ground an alarm-signal visible at a great distance. It will finally admit of the "corpse's" calling for assistance by means of the tube, which partakes of the character of a speaking trumpet. Such is Signor Di Santostefano's account of the apparatus contrived in aid of the "buried alive," and, although highly ingenious, it is liable to so many adverse contingencies that it can be expected to fulfil its purpose only in a small percentage of cases. However, if it prove instrumental in rescuing even one victim to "premature burial" it will have amply justified its being put in operation.

June 13th.

## VIENNA.

(FROM OUR OWN CORRESPONDENT.)

*The Relation between the Nose and the Reproductive Organs in Females.*

PROFESSOR KLEINWÄCHTER has published in the *Medizinische Presse* an article on a pamphlet which Dr. Fliess has written on the subject of the relation existing between the nose and the reproductive organs in females. It is stated that the inferior turbinated bones of the nose possess a corpus cavernosum the volume of which is liable to alteration under the influence of the spheno-palatine ganglion, and this ganglion receiving fibres from the carotid plexus through the deep petrosal nerve is in communication with the sympathetic nervous system which influences the sexual faculty. Opposite the middle turbinated bone there is on the nasal septum a pledget-shaped elevation with numerous blood-vessels and glands, the so-called tuberculum septi. These two structures, which Dr. Fliess calls the "genital places of the nose," become swollen, cyanotic, and very sensitive at the menstrual period. That form of dysmenorrhœa in which the pain continues after the commencement of the menstrual flow disappears at once if the two "genital places" of the nose are rendered insensible by a 20 per cent. solution of cocaine.

When an anæsthetic is applied to these places in only one nostril the pains disappear on only one side of the body; anæsthetisation of the inferior turbinated bones removes the abdominal pains in from five to seven minutes. By cauterising these places with trichloracetic acid dysmenorrhœa may be averted for a long time. That form of dysmenorrhœa which Dr. Fliess calls "nasal" is in a great many cases due to infectious diseases which cause hyperplasia of the nasal mucous membrane; but it sometimes arises from the fact that the corpora cavernosa of the nose do not decrease in volume after menstruation, and a congestion remains.

*Post-graduate Instruction.*

Courses of lectures, the attendance on which is limited to medical men in practice, are delivered in Vienna, but not in any other Austrian University. They have been introduced on the initiative of Professor Wagner, who has for a year been Dean of the Vienna Medical Faculty, and has appointed two months (August and September) during which they are delivered in two series by the most eminent *privat-docents* and assistants of the faculty. Each course lasts four weeks, and the fees vary from twenty gulden (£1 17*s.*) to fifty gulden (£4 13*s.*), according to the subject. The first series begins on August 2nd, and comprises the following courses: Pathological Anatomy, Bacteriology, Experimental Pathology, Pharmacology, Internal Medicine, Neuro-pathology, Diseases of Children, Ophthalmology, Laryngology, Diseases of the Ear, Dermatology and Syphilis, Obstetrics and Gynæcology. The second series, beginning on September 1st, includes the following courses: Anatomy, Pathological Anatomy, Bacteriology, Experimental Pathology, Forensic Medicine, Internal Medicine, Surgery, Ophthalmology, Diseases of the Ear, Dermatology and Syphilis, Obstetrics and Gynæcology. These courses are likely to be preferred by medical practitioners to those delivered during the session from October to July, as they are not attended by students.

*Bubonic Plague.*

At the last meeting of the Medical Society Dr. Albrecht gave an account of his experience of plague acquired by an observation of 247 cases in Bombay. He said that plague is infectious and shows no resemblance to any other disease. Its most frequent form is the septicæmic-hæmorrhagic, beginning with a primary hæmorrhagic bubo in the inguinal, axillary, or cervical region, this bubo being accompanied by œdema of the surrounding parts; there are also hæmorrhages into various organs, changes in the lymphatic glands, symptoms of degeneration in the parenchymatous organs, and a characteristic enlargement of the spleen. Sometimes there is no primary bubo, but all the lymphatic glands become swollen. The bubo suppurates after nine days; when it bursts or is opened and the pus is evacuated the glandular substance is found to have disappeared and only an empty capsule remains. A second form of the disease is marked by pyæmia and numerous deposits in the internal organs; in these cases post-mortem examination shows embolic centres in the lungs, liver, and kidney, together with characteristic hæmorrhage into the walls of the gall-bladder. Sometimes the disease takes the special form of primary pneumonia marked by confluent inflammatory centres, without any swelling of the lymphatic glands. The bacillus is found in the blood and the sputum, but not in the fæces or urine. It cannot be stained by Gram's method, it has a capsule, and is easily destroyed by unfavourable conditions, such as exposure to a high temperature.

June 19th.

## RUSSIA.

(FROM OUR OWN CORRESPONDENT.)

*The Twelfth International Medical Congress: the Free Railway Passes.*

As already announced in THE LANCET, the Russian Government has decided to grant free railway passes on all Russian railways to members of the International Congress. In the case of foreigners the ticket will be available from any frontier station chosen by the member to Moscow and back. The return route need not be the same as the outward route, but the member must, in applying for a ticket, state which route he intends to follow both outward and homeward. It had at first been announced that this would not be required of members, and that it would be open for them to select even at the last moment the route by which they would return from Moscow, but the Executive Committee has just issued a statement correcting the first announcement and adding that only in exceptional circumstances can the return route for which a ticket has been issued be altered. The reason of this arrangement is obvious; the railway authorities are desirous of having some approximate idea of the numbers of passengers who will be leaving Moscow after the Congress by each particular line of railway and of providing accommodation accordingly. Intending members of the Congress are therefore requested, in writing to Professor Roth (the general secretary, Twelfth International Medical Congress, Moscow) to obtain the free railway passes, to state in their letters which routes they wish to follow both going to and returning from Moscow. The committee has received from the Government 7000 such free passes. The passes will be available on any date until Sept. 10th (22nd) instead of only until the 1st (13th) of that month, as at first announced. Members who have received their free railway tickets are requested to present them at the frontier station, where they will be stamped; they may also be asked to show them by the railway officials at any part of the journey. These trifling formalities will present no difficulties to the foreigner, as at each principal frontier town a committee of medical men (principally army surgeons) has been formed with the express object of assisting foreigners on their journey. In addition, the Custom House authorities have been approached by the committee and asked to "deal gently" with members of the Congress. The free railway ticket entitles the holder to carry one *pood* (36 lb.) of luggage free of carriage. Before leaving Moscow the return ticket must be stamped at the office of the executive committee to the effect that the holder is a *bonâ-fide* member of the Congress, and it will have to be presented at the booking-office of the station of departure to be stamped with the date.

*The Ladies' Committee.*

As a considerable number of lady guests may be anticipated a committee of ladies has been formed to provide for their comfort and amusement during their visit to Moscow. This Ladies' Committee has been taken under the gracious patronage of the Grand Duchess Sergius, the granddaughter of Queen Victoria and sister of the reigning Empress. The president of the committee is Madame Skliffosofski, who is assisted by Madame Kojevnikof and Madame Pashutin. This committee proposes to organise a small exhibition of women's work, and hopes to make this as representative as possible of the position and activity of women in Russia. The exhibition will be open during the period of the Congress. Members who expect to be accompanied by ladies are particularly requested to communicate the fact to the general secretary, Professor Roth.

*The Arrangements in St. Petersburg.*

The committee formed in St. Petersburg to arrange for the reception of members of the Congress and their proper entertainment in this, the second capital of the Russian Empire, has already announced a number of interesting engagements for the days succeeding the close of the Congress. The Congress in Moscow will end on the 14th (26th) August; on the 16th (28th), a Saturday, there will be a reception of members by the St. Petersburg medical societies and the profession in general; this will be held in the Salle de Noblesse, the largest and handsomest hall in St. Petersburg. On Sunday, the 17th, there will be an excursion to Peterhof, where there are more than one Imperial palace and a very beautiful park, the fountains in which rival the famous fountains of Versailles. Supper will be served in Monplaisir, a picturesque little Imperial summer-house, dating from the time of Peter the Great and built close to the waters of the gulf. For those members who do not go to Peterhof there will be on the same evening a reception or "rout" given by Her Highness the Princess of Oldenburg. On Monday, the 18th, the new museum at the Imperial Academy of Military Medicine, named after the great surgeon, Pirogof, will be opened in state in the morning, and in the evening the town council will hold a reception. The two following days are allotted to an inspection of some of the medical and other institutions of interest in the city.

*The Pirogof Statue in Moscow.*

One of the events of the Congress week in Moscow will be the formal unveiling of the new statue to Pirogof in front of the principal entrance to the clinique. The proposal to erect such a monument was made in the year 1891 and a

subscription list was started; the sum collected amounted in 1895 to 12,000 roubles (about £1300), and the work was entrusted to Mr. V. O. Sherwood, member of the Academy of Arts. The statue is already complete, but a further small sum of money is required for paving the space about the statue and adding a chain or railing round it. For this 1600 roubles are required, and this sum will probably be voted by the town council of Moscow. Pirogof's relations with Moscow were of the most intimate kind, as may be gathered from his own words, which have been chosen to appear on the pedestal of the monument: "The city of Moscow, in honouring me with the title of honorary citizen, have realised the secret dream of my youth, when I was prepared to dedicate the whole of my life solely to Moscow, the place of my birth and of my education."

*The Recent Jenner Centenary.*

The Russian National Health Society, at their recent annual meeting, awarded the gold medal of the society to Dr. Hubert for his Jenner Centenary volume on "Small-pox and Vaccination," which was reviewed in THE LANCET of April 17th. The gold medal is given once in two years, and a silver medal annually. At the same meeting a number of foreign honorary members were elected, and among them the Epidemiological Society of London as a whole received the honorary membership of the Russian society.

*The Russian Census.*

The preliminary results of the first complete Russian census ever taken have just been published. The total population of the empire in January last, the date of the census, was 129,211,113; the number of males was 64,616,280, and of females 64,594,833 This proportion of the sexes, in which the males slightly exceed the females, is worthy of remark. Previous attempts to arrive at a knowledge of the number of persons in the empire were made in 1851, when the population was reckoned at over 67,000,000; in 1858, when the figure had risen to over 74,000,000; and in 1885, when it had increased to 108,819 332.

June 5th (17th).

## NEW ZEALAND.

(FROM OUR OWN CORRESPONDENT.)

*The Recent Annual Medical Conference held at Nelson.*

THE New Zealand Medical Association is in name a colleagueship of the past, and we are now inaugurated as a branch of the British Medical Association. How this change has come about is not by any means clearly seen by the majority of the members of the profession practising in this colony. I have already maintained that it is a misfortune that circumstances have so come about that at the present time we have no representative journal of our own. The *New Zealand Medical Journal* was edited ever since its inception in a most befitting manner. It had a considerable credit balance at the time of its decease—viz., at the end of the year 1896. It was well supported by the profession, and numerous original articles, dealing with a vast variety of medical, surgical, and general topics, have from time to time appeared in its pages. In was, in fact, a medium of recording special work in the colony, and right well did it carry out its purpose. In its place we have a limited space allocated to us in the *Australasian Medical Gazette*—a journal printed on the other side. How long this arrangement will be considered satisfactory to the members of the profession practising here remains to be seen, but I venture to predict that ere long we shall find it necessary to ventilate our thoughts through the medium of a medical journal edited in New Zealand. Living so far away as we do from "home" perhaps the determination to unite ourselves with the British Medical Association and be subservient to its rules and ordinances will turn out a satisfactory arrangement. It has, however, been found necessary to frame certain by-laws which shall govern our transactions in the colony apart from the ordinary rules of the British Medical Association.

General practitioners in New Zealand—which looks such a small speck on the map, but which is about the size of Great Britain and Ireland minus Wales—live a very long way apart, and have in each locality many miles of surrounding district to cover in their daily work. In these circumstances it is looked upon as very improbable that a very large attendance of the profession will be likely to congregate on the occasions of the annual medical conferences, and this has certainly been the experiences of the past. The year 1897 will be remembered, however, for attracting to Nelson a very representative conclave of medical men from all parts of the colony, to see the old order of affairs superseded and the new state of mission inaugurated.

The majority of the Wellington and the West Coast of the North Island contingent left the empire city on board the Union s.s. *Wainui* on Sunday evening, March 7th, and were rewarded by having a most glorious passage through the "French Pass," no antidotes for *mal-de-mer* being necessary. We had a travelling theatrical company on board and things from the start were characterised by recitations and joviality. Not so rosy a time, however, did the remaining members of the conference experience, who elected to leave the same port on the following day on board the s.s. *Corinna*, for a sou'-wester suddenly sprang up, and by the time the good ship had reached the wharf at Nelson those on board were prostrate, for the storm had played more havoc in the "garden of New Zealand" than any similar visitation during the past thirty years.

Such was our first night at Nelson, the howling wind and driving rain wafting away sweet sleep from most of us and from many of the townsfolk. As the dawn of Tuesday, March 9th, appeared the gale suddenly lessened and shortly gave place to bright sunshine and a crispness of the air which enabled us to visit with pleasure during non-working hours the many beautiful scenes which this part of New Zealand presents. It also enabled us to enjoy to the full the kindly hospitality of our Nelson medical brethren, who had so arranged social gatherings (including a delightful picnic to Cable Bay) and dinners that our time was fully occupied during the week in scientific work and recreative enjoyment which none of us will soon forget. Father Mahoney's hospitality and attention to us must be specially referred to—a genial, kindly gentleman (who has done so much to benefit his flock and the public of Nelson as a whole) that we would all like to give him a "retaliation." It is with gentlemen of his position, endowed with light and understanding, that intercourse with members of the medical profession brings about matters for the public well-being.

Tuesday, March 9th, at 3 P.M., was the date fixed, and the Museum at Nelson the rendezvous, for the introductory address, which related to affairs deferred from the New Zealand Medical Association, correspondence, &c., and notices of motion in connexion chiefly with the vexed "club question." A long and very interesting discussion took place on this latter subject, and it was ultimately decided to leave the matter in the hands of the Provisional Council to report on. Now, as this is one of the most important questions which concerns the members of the profession as well as the public, it was decided by the Council (which was afterwards elected) "to draw up certain suggestions and to send a copy to each practitioner in the colony and to the secretary of each section of the New Zealand Branch of the British Medical Association to report and give information on." This was carried unanimously by the Council. The following were elected members of the Provisional Council: Dr. Scott (Auckland), Dr. Saunders (Wanganui, as delegate for the Hawke's Bay Branch), Dr. Collins (Wellington), Dr. Graham-Campbell (Christchurch), and Dr. Mackie (Nelson).

At 8 P.M. the same evening Dr. Cleghorn, the President for 1897, delivered a thoroughly practical address on the relationship in this colony between the profession and the public. I trust that it will bring forth the fruit in due season which its thoughtful preparation so well merits. That Dr. Cleghorn's address was appreciated by his medical *confrères* was significant by the frequent plaudits which occurred during the course of his remarks. The President received a hearty vote of thanks for his address.

The following papers were read at the meeting: "New Methods of Diagnosis and Treatment of Chronic Disorders of the Stomach," by Dr. Colquhoun (Dunedin); "Osteomyelitis," by Dr. W. Collins (Wellington); "Ununited Fracture of the Humerus: Successful Treatment after Sixteen Months of Solution of Continuity by a Modification of Lane's Method," by Dr. G. R. Saunders (Wanganui); "Early Ectopic Gestation," by Dr. F. Batchelor (Dunedin); "Albumose in the Urine," by Dr. Fyffe (Wellington), who also contributed a very interesting paper on a Case of Operation for Perforation of the Stomach. Dr. Scott also gave a demonstration of administration of gas and ether.

A most delightful picnic to Cable Bay, the site of the submarine cable house, wound up a very successful week.

April 15th.

# Obituary.

## MATTHEW CHARTERIS, M.D. EDIN., F.R.S. EDIN.

WE announced in our issue of June 12th with deep regret the death of Dr. Matthew Charteris, Professor of Materia Medica and Therapeutics in the University of Glasgow, who passed away on June 7th at the little village of Comrie in Perthshire, where he had gone to recruit after a severe attack of influenza. He was born in 1840 in the lovely district of Wamphray, Dumfries-shire, and received his early education from his father, who was schoolmaster there. He afterwards attended the arts classes at the University of Edinburgh, where he distinguished himself as a classical scholar; but presently deserting these literary pursuits for the study of medicine, he graduated as M.D. in 1863. In the same year he obtained the Licence of the Royal College of Surgeons of Edinburgh, and then proceeded to Paris, where he attended the clinics of the leading men. He also worked for a time in London, where he held several junior medical appointments. Returning to Scotland he settled at Airdrie, but soon left there for the neighbouring city of Glasgow, where he rapidly acquired a high reputation and an extensive practice. In 1874 he became a Fellow of the Faculty of Physicians and Surgeons of Glasgow, and two years afterwards was appointed to the important post of Professor of the Practice of Medicine in Anderson's College. Previously to this he had been elected one of the honorary physicians to the Royal Infirmary, where he rapidly became popular with the students for his unusual powers of clinical teaching. In these posts he had acquired so outstanding a reputation as a teacher and therapeutist that on a vacancy occurring in 1880, the Crown appointed him to the Chair of Materia Medica and Therapeutics in Glasgow University, a position which he filled with honour and dignity for seventeen years. On his appointment he took up the work of the chair heartily and enthusiastically, and getting rid as far as possible of the old-fashioned trammels and traditions surrounding materia medica, he endeavoured to make his lectures on therapeutics a living and practical part of the medical curriculum—an endeavour in which his students will heartily admit that he was entirely successful. Besides being actively occupied with practice and teaching he engaged, as time allowed, in a number of scientific researches. The best known of these is his investigation into the action of the impurities found in sodium salicylate. During the first of the recent epidemics of influenza he was much struck by observing the occasional very depressing effects of this drug, and after prolonged inquiry he was able to show that this was due to the presence in varying quantity of one of the varieties of cresotic acid. Pure or "natural" salicylate he found to be comparatively harmless, and as an outcome of his researches great practical improvements have taken place in the manufacture of salicylic compounds. He also investigated the effects of copper when used as a colouring agent for preserved fruits and vegetables, this like all his other contributions showing a distinctly practical bent of mind. He was a frequent contributor to THE LANCET and to the medical press generally, and comparatively recently had written on the treatment of rheumatism and of sea-sickness. He was recognised as an authority on climatic treatment and health resorts—a subject on which he had written largely, being the author of a well-known book and of the article on Treatment by Climate in Quain's Dictionary of Medicine. He was a Fellow of the Royal Society of Edinburgh and a vice-president of the British Balneological Society, and had lately been nominated a vice-president of the International Medical Congress to be held this year at Moscow. He had a deep sense of the importance of the clinical teaching of thereapeutics and of pharmacology as being calculated to train students in rational methods of treatment as opposed to dogmatic and empirical methods, and for some years past it was a matter of the deepest regret to him that no beds were allotted in the Western Infirmary to his university chair, so that he was unable to illustrate his lectures by his practice. He made a determined effort to alter this state of things, but without success—a result to be regretted both on account of the infirmary and of the University. Personally Matthew Charteris was one of the kindest and most amiable of men—simple, and unassuming as regards his own position and attainments, but appreciative and sympathetic towards the work of others. He took an active part in university affairs, and was greatly beloved by his students for his unvarying kindness to them in every relationship. Many of his old pupils owe to his interest in them their first start in their medical career after graduation, and he will be greatly missed not only in the University, but by a wide circle of friends in Glasgow. He was a keen fisherman and golfer, and a good billiard player. He kept up throughout life a strong interest in the Latin poets, the result no doubt of his early training under his father. He leaves a widow and three grown-up sons.

## THOMAS HAMILTON, M.D. EDIN.

BY the death of Dr. Hamilton, who passed away at the ripe age of eighty-three years, Kelso has lost a highly esteemed practitioner of the old school. The deceased was educated at the Edinburgh High School and at the University of Edinburgh, where he took the degree of M.D. so far back as the year 1838. For many years he had an extensive, though it must be confessed not very lucrative, practice, and among the many offices he filled was that of medical officer to the Kelso Union Poorhouse. He was an earnest Presbyterian and was for nearly fifty years an elder. He was a good linguist and classical scholar, while his unfailing kindness and courtesy endeared him to all classes with whom he came in contact. The funeral, which took place on June 6th, was attended by a large number of friends and former patients. Although he had for some time retired from active practice he continued to take a prominent part in town affairs, and his loss will be greatly felt in Edinburgh where he had resided for many years.

## HUGH MOSS, J.P., M.D. ST. AND., M.R.C.S. ENG, L.S.A.

THE news of the death of Dr. Hugh Moss, of Congleton, Cheshire, at the age of fifty-eight years, has been received with great regret by many friends and acquaintances in both public and private capacities. His health had been failing for some months, but he was able to continue active work up to the last. Whilst seeing a patient on the morning of May 28th he was seized with apoplexy and died in a few hours. Dr. Moss qualified M.R.C.S. Eng. and L.S.A. in 1862, and in the same year obtained the M.D. degree of St. Andrews University. For over thirty years he was medical officer to Congleton union, and enjoyed an extensive country practice. Dr. Moss took much interest in municipal affairs, and was for three consecutive years mayor of the borough, carrying out his duties with great assiduity. He devoted much of his leisure time to music, and was especially proficient as a player of the flute and violin. He was held in the highest esteem both on account of his personal charm and professional ability. His loss is deeply felt by a large circle of friends and patients, more especially perhaps by the sick poor, to whom he was ever most unremitting in his care and attention. The funeral was a public one, attended by the mayor and corporation and a large number of townspeople. Dr. Moss leaves a widow and four daughters.

# Medical News.

SOCIETY OF APOTHECARIES OF LONDON.—At the examination in June the following candidates passed in the subjects indicated:—

*Surgery.*—P. D'E. Burrell, St. George's Hospital; G. F. McCleary, Cambridge University and Middlesex Hospital; E. J. O'Meara (Sections I. and II.), Guy's Hospital; A. H. Turner, London Hospital; and J. H. Whitaker, Belfast.

*Medicine.*—J. T. Brickwell, Guy's Hospital; F. R. Greenwood, St. Bartholomew's Hospital; G. F. McCleary, Cambridge University and Middlesex Hospital; W. Mawer, St. Bartholomew's Hospital; E. J. O'Meara (Section II.), Guy's Hospital; and T. H. B. Yorath, Guy's Hospital.

*Forensic Medicine.*—J. T. Brickwell, Guy's Hospital; J. Cater, King's College Hospital; P. H. Collingwood, St. Thomas's Hospital; F. R. Greenwood, St. Bartholomew's Hospital; T. Jones, Middlesex Hospital; G. F. McCleary, Cambridge University and Middlesex Hospital; and E. L. C. Muspratt, King's College Hospital.

*Midwifery.*—J. T. Brickwell, Guy's Hospital; J. Cater, King's College Hospital; T. Jones, Middlesex Hospital; H. Lewkowitsch, Breslau; G. F. McCleary, Cambridge University and Middlesex Hospital; and A. E. Sellet, London Hospital.

The diploma of the Society was granted to the following candidates, entitling them to practise Medicine, Surgery, and Midwifery:—Messrs. J. T. Brickwell, P. H. Collingwood, H. Lewkowitsch, E. J. O'Meara, W. Mawer, G. F. McCleary, E. L. C. Muspratt, A. E. Sellet, and J. H. Whitaker.

UNIVERSITY OF CAMBRIDGE.—At the Congregation on June 18th, in addition to the honorary degrees conferred on the colonial Premiers and other distinguished persons, the following medical degrees were granted:—

*Doctor of Medicine.*—Joseph Blumfield, B.A., Caius; and Ernest Noel Nason, B.A., Downing.

*Bachelor of Medicine.*—L. P. Black, M.A., Trinity Hall; J. M. Martin, B.A., St. Peter's; H. B. Milsome, B.A., Trinity; W. Irving, B.A., Caius; S. H. Long, Caius; A. Mackenzie, B.A., Caius; W. B. Dove, B.A., Christ's; W. E. Manby, B.A., Christ's; H. Roper, B.A., Christ's; H. J. R. Twigg, B.A., Christ's; J. C. Muir, B.A., Emmanuel; and G. B. Muriel, B.A., Downing.

*Bachelor of Surgery.*—H. B. Milsome; P. J. A. Seccombe, M.A., St. John's; J. M. Martin; W. Irving; A. Mackenzie; W. B. Dove; W. E. Manby; H. Roper; H. J. R. Twigg; J. C. Muir; and G. B. Muriel.

Professor Allbutt has been appointed to represent the University at the forthcoming International Medical Congress in Moscow. Mr. E. W. MacBride has been appointed an Additional Examiner in Elementary Biology for the M.B. degree. There were 145 candidates at the examination just completed. In presenting Sir John Kirk, M.D. Edin., F.R.S., for the honorary degree of Doctor of Science on June 17th, the Public Orator referred to him as "Livingstonii comitem fidelissimum, Livingstonii adiutorem optimum, virum scientiarum laude insignem, Africæ denique in litore orientali per annos plurimos Britannicæ procuratorem indefessum."

OPENING OF THE NEW COUNTRY BRANCH OF THE NATIONAL HOSPITAL FOR THE PARALYSED AND EPILEPTIC AT EAST FINCHLEY.—On Wednesday, June 16th, as we briefly mentioned last week, the Duchess of Albany performed the ceremony of opening the new convalescent home which the board of the hospital have erected at East Finchley in place of an old and less commodious building. A large number of visitors travelled from King's Cross by special train. After a short religious service an illuminated address was presented to Her Royal Highness, and at the request of Mr. G. W. E. Russell, she declared the building open. The Duchess was afterwards conducted over the building by Dr. Buzzard, Dr. Gowers, and Dr. Ormerod, and showed the greatest interest in all the arrangements of the hospital, and conversed with many of the patients. The hospital in Queen-square, of which this is a branch, was one in which the late Duke of Albany took active interest, and after his lamented death Her Majesty the Queen approved of the name of "Albany Memorial" being given to the hospital. It must have therefore been gratifying to Her Royal Highness to find that the institution, which owed so much to the Duke, has been so successful that it has been obliged to enlarge its borders. The new hospital stands in a large garden at the edge of the well-wooded slope which extends northward from Hampstead and is admirably adapted for its purpose. It is intended to accommodate thirty female and ten male patients. Not only epileptics, but patients convalescent from other forms of disease of the nervous system are sent from the parent hospital. It is to epileptics particularly that the home will be a boon, as in consequence of their infirmity they are not admissible to ordinary convalescent homes. Nearly all the rooms are on the ground floor, making movement about the house easy for those who are suffering from some form of paralysis, and protecting epileptics from the risk of injuring themselves by falling downstairs during an attack. The wards are very bright and well ventilated. There is an adequate resident nursing staff, and the patients are visited every week by two of the physicians, or in an emergency by the local officer, Dr. Hicks.

THE Brighton corporation on June 17th passed new by-laws for dealing under penalties with small occupiers who sub-let a part of their houses. This is, in the opinion of Dr. Newsholme, the medical officer of health, one cause of the high death-rate in one or two of the wards of the borough. Competitive plans are being invited for a large number of artisans' dwellings to be erected by the Council. The borough waterworks last year made a gross profit of £33,686; £8500 go to the relief of the rates.

# Parliamentary Intelligence.

## NOTES ON CURRENT TOPICS.

*Public Health (Scotland) Bill.*

THERE is every prospect of ample discussion on the report stage of this Bill with regard to the amendments made by the Grand Committee putting the sanitary inspector on the same footing as the medical officer of health in deciding what are nuisances and other points in connexion with public health administration. Formal proposals to strike out these amendments have been given notice of by Sir William Priestley and Sir Walter Foster.

*The Scottish Universities Commission.*

Having regard to what was said at the recent meeting of the General Medical Council with reference to the ability of the Scottish Universities to get from the Scottish Universities Commission an ordinance empowering them to exercise discipline upon their graduates, the assurance given by Mr. Hanbury, Secretary to the Treasury, on Friday, June 18th, in the House of Commons is of some importance. Mr. Hanbury's attention was called by certain of the Scotch Members to the litigation going on between the University of St. Andrews and the College of Dundee, and he stated in explicit terms that until this litigation is concluded and the point at issue settled the Scottish Universities Commission cannot come to an end. Not only so, but provision is made in the estimates of the year for the continued existence of the Commission.

## HOUSE OF COMMONS.

THURSDAY, JUNE 17TH.

*Education for Blind and Deaf Children.*

Sir John Gorst made a statement on this subject when introducing, at this sitting of the House the vote for public education in England and Wales. He stated that the sum now earned by the schools for giving this education amounts to £17,527 a year, the increase in the present year being no less than £2535. The grants allowed were £3 3s. per scholar for ordinary elementary education and £2 2s. per scholar for manual instruction and industrial training. In 1894-95, while 3121 scholars earned the former grant, only 1937 earned the latter; but in 1895-96, out of 3742 who earned the grant for ordinary elementary education, no fewer than 3611 earned the grant for manual instruction and industrial training. These figures showed, he said, that under the improved arrangements of the present day almost every blind and deaf child not only received ordinary elementary education, but also received manual instruction, which in many instances enabled them to earn their own livelihood and become valuable members of society. This result of the new Act, which was to some extent an experiment, was highly satisfactory and ought to encourage Parliament and the country in proceeding in this and in analogous cases with some degree of confidence.

*Metropolitan Poor-law Children.*

Mr. James Stuart, in the course of the debate on the Education Vote, urged the Education Department to take within its cognizance the poor-law schools of London. Sir John Gorst replied that where guardians in other parts of the country had sent the children to the ordinary public schools the best results had been obtained; but in these large pauper schools in London the education was very inferior and far short of the requirements of the Education Department. Not only so, but if the Department undertook their inspection it would have no security that the recommendations of its inspectors were carried out. The only way to break up these large schools was for the guardians to send the children to the ordinary schools, and in that effort he wished them God-speed.

FRIDAY, JUNE 18TH.

*Experiments on Living Animals.*

During the debate on the Home Office Vote Mr. Weir made allegations of cruelty in connexion with vivisection, and read extracts from a letter on the subject. The Home Secretary (Sir Matthew White Ridley) undertook to inquire into the matter, but said he did not believe there was any foundation for the allegations. During the course of the last year or two he had received only one or two complaints as to the way the operations were carried on and as to alleged cruelty or irregularity under the Act. The charges made were not substantiated in any case, and he had every reason to believe that the Act was humanely and properly administered, and that the two inspectors were thoroughly up to their work. They paid surprise visits and took every means to secure the efficient carrying out of the Act.

MONDAY, JUNE 21ST.

*Food Products Adulteration.*

Mr. Balfour said, in reply to questions by Mr. Jeffreys and Major Rasch, that while he could give no specific pledge as to when the Bill dealing with the adulteration of food products would be introduced, he hoped the introduction would take place at no distant date—probably next week or the week after.

*Naval Hospital Diet Sheets.*

Dr. Tanner asked the First Lord of the Admiralty whether any, and if so what, system was pursued with regard to the audit of all naval hospital diet sheets.—Mr. Goschen replied that the various diet sheets were compiled by the medical officers of wards, who entered personally on them daily the diets they had ordered. These sheets were examined in the office of the principal medical officer in charge of the hospital, who certified on the quarterly provision account that this had been done. The audit of hospital accounts, which included that of diet-sheets, had been conducted for some time past by the controller and auditor-general.

*Dog Muzzling Orders.*

Mr. Walter Long, President of the Board of Agriculture, said, in

reply to Sir Charles Dilke, that he had caused a special inquiry to be made as to the application of the dog muzzling order to sheep dogs while working, the result of which went to show that no really serious inconvenience was caused by requiring these dogs to be muzzled in districts in which such a measure was necessary. This view was confirmed by the past experience both of the Board of Agriculture and many local authorities when muzzling regulations had been made. Moreover, the proposed exemption would seriously impair the efficiency of the orders now in force and render it necessary for them to be continued for a longer period than he hoped would be necessary.

*The London Water Question.*

Mr. Chaplin said he was informed that the Royal Commission on the London Water-supply held their first meeting on May 29th, when temporary accommodation was provided for them. Offices had since been assigned to the Commission, and he was advised that the inquiry was proceeding.

# Appointments.

*Successful applicants for Vacancies, Secretaries of Public Institutions and others possessing information suitable for this column, are invited to forward it to* THE LANCET *Office, directed to the Sub Editor, not later than 9 o'clock on the Thursday morning of each week for publication in the next number.*

BAILEY, J. G., M.B., C.M. Edin., has been appointed Junior House Surgeon to the Huddersfield Infirmary.

BARTLETT, R. C., L.R.C.P. Lond., F.R.C.S., has been appointed Medical Officer of Health by the Ramsey Rural District Council.

CARWARDINE, THOMAS, M.B., M.S. Lond., F.R.C.S. Eng., has been appointed Assistant Surgeon to the Bristol Royal Infirmary.

EATON, JAMES, M.R.C.S., has been re-appointed Medical Officer of Health by the Grantham Rural District Council.

FOX, G. M., L.R.C.P. Lond., M.R.C.S., has been appointed Medical Officer of Health by the Walsall Rural District Council.

GIBSON, W. R., L.R.C.P. Lond., M.R.C.S., has been appointed Assistant Medical Officer for the Infirmary of the St. Saviour's Union, London.

GILL, F. A., M.B., C.M. Aberd., has been appointed an Assistant Medical Officer to the Manchester Prison.

GRINDLAY, G., M.B., C.M. Edin., has been appointed Medical Officer for the Kingswinford Sanitary District of the Stourbridge Union.

HASLAM, W. F., F.R.C.S., has been appointed an Examiner in Anatomy for the Fellowship of the Royal College of Surgeons.

LAKE, RICHARD, F.R.C.S., has been appointed Surgeon Laryngologist to the North London Hospital for Consumption, Hampstead.

LATTER, CECIL, M.D., B.C., B.A. Cantab., has been appointed Medical Officer to the Victoria Hospital, Folkestone, vice F. Eastes, deceased.

MACDONALD, J., M.B., C.M. Glasg., has been re-appointed Medical Officer for the burgh of Saltcoats.

MAYNARD, EDWARD FORSTER, M.D. Edin., has been appointed Assistant Physician to the Sussex County Hospital.

MCCLELLAND, W. C., M.B., M.Ch. Syd., has been appointed a Senior Resident Medical Officer for the Sydney Hospital, New South Wales.

MONAHAN, P. F., L.R.C.P., L.R.C.S. Irel., has been appointed Medical Officer for the Kiltormier Dispensary District.

PASTEUR, W., M.D. Lond., has been appointed Consulting Physician to the North-Eastern Hospital for Children, Hackney-road.

ROBERTS, S. J., L.R.C.P. Lond., M.R.C.S., has been appointed Medical Officer for the Third Sanitary District of the Acton Union, vice W. G. Cresswell, resigned.

SLADER, G. W. B., L.R.C.S. & L.M. Irel., L.S.A. Lond., has been appointed Medical Officer for the Blyton and Corringham District of the Gainsborough Union, vice D. Mackinder, resigned; also Surgeon to the Manchester, Sheffield, and Lincolnshire and Great Eastern Railways, vice D. Mackinder, resigned.

SOPER, R. W., M.R.C.S., has been re-appointed Medical Officer by the Dartmouth Town Council.

THOMAS, J. T., L.R.C.P., L.R.C.S. Edin., has been appointed Medical Officer for the Combined Sanitary Districts of Leicester and Rutland, vice J. A. Turnur.

WARDALE, J. D., M.B. Durh., has been appointed Surgical Registrar to the Royal Infirmary, Newcastle-on-Tyne.

WARRINGTON, W. B., M.D. Lond., has been appointed an Honorary Assistant Physician to the Liverpool Hospital for Consumption, vice T. Bushby.

WINGATE, D., M.B., C.M. Glasg., has been appointed Medical Officer for the Easington Sanitary District of the Easington Union.

WOODSIDE, W. A., L.R.C.P., L.R.C.S. Irel., has been appointed a House Surgeon to the Meath Hospital and County Dublin Infirmary.

# Vacancies.

*For further information regarding each vacancy reference should be made to the advertisement (see Index)*

BOROUGH OF SHREWSBURY.—Medical Officer of Health. Salary £200 per annum. Applications to the Town Clerk, Guildhall, Shrewsbury.

BRISTOL ROYAL INFIRMARY.—House Physician for two years. Salary £100, with apartments, board, and washing.

CONSUMPTIVE HOSPITAL AND ORPHAN HOMES OF SCOTLAND, Bridge-of-Weir.—Resident Medical Officer. Salary £80 per annum, with furnished apartments, board, &c. Applications to the Secretary, 194, St. Vincent-street, Glasgow.

DISTRICT ASYLUM, Mullingar.—Medical Woman as Junior Assistant Medical Officer, unmarried. Salary £100 per annum, with board, furnished apartments, attendance, and laundry.

HOSPITAL FOR SICK CHILDREN, Great Ormond-street, Bloomsbury.—Resident Medical Superintendent for one year. Salary £105 a year, with board and residence in the hospital.

LONDON TEMPERENCE HOSPITAL, Hampstead-road, N.W.—Assistant Resident Medical Officer for six months. Residence, board, and lodging are provided, and an honorarium given at the termination of the appointment.

LONDON THROAT HOSPITAL, 204, Great Portland-street.—Two Assistant Surgeons.

MANCHESTER ROYAL INFIRMARY.—Resident Medical Officer, unmarried, for one year. Salary £150 per annum, with board and residence.

MILLER HOSPITAL AND ROYAL KENT DISPENSARY, Greenwich-road, S.E.—Junior Resident Medical Officer for six months. Salary at the rate of £30 per annum, with board, attendance, and washing.

MONKWEARMOUTH AND SOUTHWICK HOSPITAL, Sunderland.—House Surgeon, unmarried. Salary £80 per annum, with board, residence, and washing.

MONTROSE ROYAL ASYLUM, Sunnyside, Montrose, N.B.—Senior Assistant Medical Officer, unmarried. Salary £200 per annum, with board, furnished apartments, and washing.

NEWCASTLE-UPON-TYNE UNION.—Assistant Medical Officer at the workhouse, unmarried. Salary £100 per annum, with furnished apartments, rations, and washing, subject to a deduction from salary and emoluments under the Superannuation Act of 1896. Applications to the Clerk to the Guardians, Union Offices, Newcastle-upon-Tyne.

NORFOLK AND NORWICH HOSPITAL.—House Physician for two years unmarried. Salary £60 per annum, with board, lodging, and washing.

PARISH OF ST. GILES, Camberwell.—Third Assistant Medical Officer for the Infirmary at Havil-street, Camberwell, and the Workhouse at Gordon-road, Peckham; also for relief duty at the Constance-road Workhouse of the Parish for one year. Salary £50, with apartments, board, and washing. Applications to the Clerk to the Guardians, Guardians' Offices, 29, Peckham-road, S.E.

ROTHERHAM HOSPITAL AND DISPENSARY.—Assistant House Surgeon for six months. Board, lodging, and washing provided.

ROXBURGH DISTRICT ASYLUM, Melrose.—Assistant Medical Officer. Salary £100 a year, with board, rooms, attendance, and washing.

ROYAL EYE HOSPITAL, Southwark, or ROYAL SOUTH LONDON OPHTHALMIC HOSPITAL.—House Surgeon. Salary £50 per annum, with free board and lodging in the hospital.

SHEFFIELD ROYAL HOSPITAL.—House Physician (unmarried) for one year. Board (exclusive of wine and beer) and lodging provided, and an honorarium of 25 guineas will be given.

ST. GEORGE, HANOVER-SQUARE, PROVIDENT DISPENSARY, Little Grosvenor-street, W.—Resident Medical Officer. Salary £100, with allowances, about £80, and residence at the Dispensary.

TOTTENHAM HOSPITAL.—Assistant Surgeon.

WESTERN DISPENSARY, Rochester-row, Westminster, S.W.—Attending Medical Officer.

WOLVERHAMPTON AND STAFFORDSHIRE GENERAL HOSPITAL, Wolverhampton.—Resident Assistant for six months. Board, lodging, and washing provided.

# Births, Marriages, and Deaths.

## BIRTHS.

CROMBIE.—On June 23rd, at Highden, Sidcup, the wife of James Crombie, M.B., of a son.

KYFFIN.—On June 18th, the wife of John Kyffin, M.R.C.S., L.R.C.P., of Forton, Gosport, of a daughter.

OWENS.—On June 22nd, at Long Stratton, Norfolk, the wife of Charles Arthur Owen Owens, M.D. Brux., of a son.

RENTZSCH.—On June 18th, at the Firs, Waltham Cross, Herts, the wife of Sigismund Henry Rentzsch, L.R.C.P., M.R.C.S., of a son.

SALTER.—On June 19th, at St. Nicholas-parade, Scarborough, the wife of Charles E. Salter, M.D., F.R.C.S., of a son.

SKINNER.—On June 15th, at Bank House, Rye, the wife of Ernest W. Skinner, of a son (stillborn).

## MARRIAGES.

BUTLER—HOSTE.—On June 15th, at the parish church, Meonstoke, George William Butler, M.R.C.S.E., L.R.C.P. Edin., son of the late Rev. J. W. Butler, B.D., Rector of Appleton-cum-Tubney, Berks, to Margaret Elizabeth Mary, youngest daughter of the Rev. Canon Hoste, Rector of Meonstoke, Hants.

BYRNE—WALTHEW.—On June 16th, at St. Chrysostom's, Victoria-park, Manchester, George Byrne, M.R.C.S. Eng., L.R.C.P. Lond., of Sunwick, Chorlton-cum-Hardy, to Florence Annie, elder daughter of George Walthew, J.P., of Stockport, and Norman House, Victoria-park, Manchester.

MOWAT—GOLDIE.—At the Waterloo Hotel, Edinburgh, on June 23rd, 1897, by the Rev. Wm. Mowat, M.A., West U.P. Church, Galashiels (brother of the bridegroom), assisted by the Rev. Thos. Kennedy, D.D., and the Rev. J. S. Rae, M.A., Newington U.P. Church, Edinburgh, James Mowat, M.B., C.M., to Jeannie, third daughter of the late Alex. Goldie, Elgin.

## DEATHS.

BUNCOMBE.—On June 18th, at his residence, Montserrat-road, Putney, Charles Hope Buncombe, F.R.C.S.

DALZIEL.—On June 19th, suddenly, at his residence, Kensington-park-gardens, London, W., William Frederick Blyth Dalziel, M.D., aged 74.

HOGG.—On June 20th, at Buxton, Charles Hogg, F.R.C.S., of Westhill, St. Leonards-on-Sea, in his 86th year.

RAMSKILL.—On June 22nd, at St. Helen's place, Jabez Spence Ramskill, M.D.

***N.B.—A fee of 5s. is charged for the insertion of Notices of Births, Marriages, and Deaths.***

# Medical Diary for the ensuing Week.

## OPERATIONS.

### METROPOLITAN HOSPITALS.

**MONDAY** (28th).—London (2 P.M.), St. Bartholomew's (1.30 P.M.), St. Thomas's (3.30 P.M.), St. George's (2 P.M., Ophthalmic 1.15 P.M.), St. Mary's (2.30 P.M.), Middlesex (1.30 P.M.), St. Mark's (2 P.M.), Chelsea (2 P.M.), Samaritan (Gynæcological, by Physicians, 2 P.M.), Soho-square (2 P.M.), Royal Orthopædic (2 P.M.), City Orthopædic (4 P.M.), Gt. Northern Central (2.30 P.M.), West London (2.30 P.M.), Westminster (2 P.M.).

**TUESDAY** (29th).—London (2 P.M.), St. Bartholomew's (1.30 P.M.), Guy's (1.30 P.M.), St. Thomas's (3.30 P.M.), Middlesex (1.30 P.M.), Westminster (2 P.M.), West London (2.30 P.M.), University College (2 P.M.), St. George's (1 P.M.), St. Mary's (2 P.M.), St. Mark's (2.30 P.M.), Cancer (2 P.M.).

**WEDNESDAY** (30th).—St. Bartholomew's (1.30 P.M.), University College (2 P.M.), Royal Free (2 P.M.), Middlesex (1.30 P.M.), Charing-cross (3 P.M.), St. Thomas's (2 P.M.), London (2 P.M.), King's College (2 P.M.), St. Mary's (2 P.M.), National Orthopædic (10 A.M.), St. Peter's (2 P.M.), Samaritan (2.30 P.M.), Gt. Ormond-street (9.30 A.M.), Gt. Northern Central (2.30 P.M.), Westminster (2 P.M.).

**THURSDAY** (1st).—St. Bartholomew's (1.30 P.M.), St. Thomas's (3.30 P.M.), University College (2 P.M.), Charing-cross (3 P.M.), St. George's (1 P.M.), London (2 P.M.), King's College (2 P.M.), Middlesex (1.30 P.M.), St. Mary's (2.30 P.M.), Soho-square (2 P.M.), North-West London (2 P.M.), Chelsea (2 P.M.), Gt. Northern Central (Gynæcological, 2.30 P.M.)

**FRIDAY** (2nd).—London (2 P.M.), St. Bartholomew's (1.30 P.M.), St. Thomas's (3.30 P.M.), Guy's (1.30 P.M.), Middlesex (1.30 P.M.), Charing-cross (3 P.M.), St. George's (1 P.M.), King's College (2 P.M.), St. Mary's (2 P.M., Ophthalmic 10 A.M.), Cancer (2 P.M.), Chelsea (2 P.M.), Gt. Northern Central (2.30 P.M.), West London (2.30 P.M.).

**SATURDAY** (3rd).—Royal Free (9 A.M. and 2 P.M.), Middlesex (1.30 P.M.), St. Thomas's (2 P.M.), London (2 P.M.), University College (9.15 A.M.) Charing-cross (3 P.M.), St. George's (1 P.M.), St. Mary's (10 P.M.), Cancer (2 P.M.).

At the Royal Eye Hospital (2 P.M.), the Royal London Ophthalmic (10 A.M.), the Royal Westminster Ophthalmic (1.30 P.M.), and the Central London Ophthalmic Hospitals operations are performed daily.

## SOCIETIES.

**WEDNESDAY** (30th).—DERMATOLOGICAL SOCIETY OF GREAT BRITAIN AND IRELAND (20, Hanover-square, W.).—4.30 P.M Council Meeting. 5 P.M. Ordinary Meeting.

**THURSDAY** (1st).—THE ABERNETHIAN SOCIETY (St. Bartholomew's Hospital, E.C.).—8 P.M. Dr. Norman Moore: Deaths of the Kings of England.

**FRIDAY** (2nd).—OPHTHALMOLOGICAL SOCIETY OF THE UNITED KINGDOM (11, Chandos-street, Cavendish-sq., W.).—8.30 P.M. Papers:—Mr. Bickerton: Spontaneous Dislocation of Crystalline Lens into the Anterior Chamber.—Mr. Priestley Smith: Tscherning's Theory of the Accommodation.—Mr. E. T. Collins and Mr. J. R. Rolston: Microphthalmos with Cystic Protrusion from the Globe.—Mr. C. D. Marshall: Metastatic Carcinoma of the Choroid.—Mr. J. Eyre: Tuberculosis of the Conjunctiva. The Annual General Meeting for the Election of Officers will be held at the close of the ordinary meeting.

## LECTURES, ADDRESSES, DEMONSTRATIONS, &c.

**MONDAY** (28th).—LONDON POST-GRADUATE COURSE.—London Throat Hospital, Gt. Portland-st., W., 8 P.M., Mr. G. C. Wilkin: Syphilis as it may affect the Pharynx and Larynx.

**TUESDAY** (29th).—ROYAL COLLEGE OF PHYSICIANS (Examination Hall, Savoy, W.C.).—5 P.M. Dr. W. Hale White: The Means by which the Temperature of the Body is maintained in Health and Disease. (Croonian Lecture.)

ST. GEORGE'S HOSPITAL MEDICAL SCHOOL (Hyde-park-corner, S.W.).—5 P.M. Dr. P. Manson: Diseases of Tropical Climates.

NATIONAL HOSPITAL FOR THE PARALYSED AND EPILEPTIC (Bloomsbury).—3.30 P.M. Dr. Ormerod: Clinical Demonstration.

**WEDNESDAY** (30th).—WEST LONDON POST-GRADUATE COURSE (West London Hospital, W.).—5 P.M. Mr. McAdam Eccles: Cases of Hernia.

HOSPITAL FOR CONSUMPTION, &c., (Brompton).—4 P.M. Dr. S. Martin: Aortic Stenosis.

**THURSDAY** (1st).—ST. JOHN'S HOSPITAL FOR DISEASES OF THE SKIN (Leicester-square).—5.30 P.M. Dr. Morgan Dockrell: Syphilides.

**FRIDAY** (2nd).—ST. GEORGE'S HOSPITAL MEDICAL SCHOOL (Hyde-park-corner, S.W.)—5 P.M. Dr. P. Manson: Diseases of Tropical Climates.

NATIONAL HOSPITAL FOR THE PARALYSED AND EPILEPTIC (Bloomsbury).—3.30 P.M. Mr. Gunn: Intra-Ocular Muscles.

## METEOROLOGICAL READINGS.

*(Taken daily at 8.30 a.m. by Steward's Instruments.)*

THE LANCET Office, June 24th, 1897.

| Date. | Barometer reduced to Sea Level and 32° F. | Direction of Wind. | Dry Bulb | Wet Bulb. | Solar Radia in Vacuo | Maximum Temp. Shade | Min. Temp | Rainfall. | Remarks at 8.30 A.M. |
|---|---|---|---|---|---|---|---|---|---|
| June 18 | 29·48 | S.W. | 59 | 58 | 118 | 65 | 51 | 0·05 | Cloudy |
| ,, 19 | 29·94 | N.W. | 55 | 49 | 114 | 65 | 49 | 0·24 | Cloudy |
| ,, 20 | 29·82 | W. | 60 | 55 | 87 | 61 | 50 | ... | Cloudy |
| ,, 21 | 30·08 | S.W. | 61 | 56 | 124 | 77 | 52 | ... | Hazy |
| ,, 22 | 30·11 | W. | 65 | 61 | 125 | 80 | 60 | ... | Cloudy |
| ,, 23 | 30·09 | S.E. | 73 | 67 | 131 | 88 | 63 | ... | Hazy |
| ,, 24 | 29·86 | S.W. | 77 | 69 | 130 | 89 | 68 | ... | Hazy |

# Notes, Short Comments, and Answers to Correspondents.

## EDITORIAL NOTICE.

IT is most important that communications relating to the Editorial business of THE LANCET should be addressed *exclusively* "TO THE EDITORS," and not in any case to any gentleman who may be supposed to be connected with the Editorial staff. It is urgently necessary that attention be given to this notice.

*It is especially requested that early intelligence of local events having a medical interest, or which it is desirable to bring under the notice of the profession, may be sent direct to this Office.*

*Lectures, original articles, and reports should be written on one side of the paper only*, AND, WHEN ACCOMPANIED BY BLOCKS, IT IS REQUESTED THAT THE NAME OF THE AUTHOR, AND IF POSSIBLE OF THE ARTICLE, SHOULD BE WRITTEN ON THE BLOCKS TO FACILITATE IDENTIFICATION.

*Letters, whether intended for insertion or for private information, must be authenticated by the names and addresses of their writers, not necessarily for publication.*

*We cannot prescribe or recommend practitioners.*

*Local papers containing reports or news paragraphs should be marked and addressed "To the Sub-Editor."*

*Letters relating to the publication, sale, and advertising departments of* THE LANCET *should be addressed "To the Manager."*

*We cannot undertake to return MSS. not used.*

## MANAGER'S NOTICE.

### THE INDEX TO THE LANCET.

THE Index and Title-page to Vol. I. of 1897, which is completed with the issue of to-day, will be given in the next number of THE LANCET. It is intended, in future, to include the Index and Title page for each past half-yearly volume in the first number of the succeeding volume, instead of in the last number of the volume itself, as heretofore.

## WANTED A HOME.

*To the Editors of* THE LANCET.

SIRS,—Could any of your readers assist me in finding a home for an imbecile man? He is thirty-five years of age, quite harmless, has no paralysis or fits, can feed and dress himself, but requires a certain amount of supervision. His parents are aged, and would invest a sum sufficient to secure the regular payment of £1 per week, but could not afford to pay more. Naturally, they are anxious to find a home for their only son where he would be cared for and not abused. Any help in this matter would greatly oblige, Yours faithfully,

June 23rd, 1897. M.D.

## "THE SUPPLY OF TETANUS ANTITOXIN."

*To the Editors of* THE LANCET.

SIRS,—With reference to the letter by Mr. Buck in THE LANCET of June 12th regarding the difficulty experienced in obtaining serums from the wholesale agents in London, we would like to point out to you that we are acting as agents for the supply of serums issued by the Pasteur Institute in Paris, and that these can be procured in London at any time by wire from our west-end depôt, Mr. F. A. Rogers, successor to late Corbyn and Co., 327, Oxford-street; and from another depôt, Messrs. Alsop and Quiller, Sloane street, S.W. We would also like to point out to you that in Edinburgh, Glasgow, Belfast, Dublin, and other large towns we have depôts where these serums are stocked; and if your correspondent will put himself in communication with us we shall be pleased to give him a list of establishments from which serums can be procured without any delay at any time. Thanking you in anticipation of your kindly publishing this information,

We are, Sirs, yours faithfully,

OPPENHEIMER, SON, AND CO., LTD.
(*per* A. W. BALL, Director).

14, Worship-street, E.C., June 12th, 1897.

*To the Editors of* THE LANCET.

SIRS,—Our attention has just been drawn to the letter signed by Mr. Arthur H. Buck in THE LANCET of June 12th. Had Mr. Buck taken the trouble to consult your advertisement pages he would have seen that for months past we have at frequent intervals had advertisements headed "Sunday," specially drawing attention to the fact that all the antitoxic serums of the British Institute of Preventive Medicine, &c., when wanted from us on that day, should be ordered from our Vere-street branch, the telegrams to be addressed, "Hanburys, Vere-street, London." A line drawing attention to this Sunday supply has appeared in our antitoxin advertisement every alternate week, and we think Mr. Buck might at least have taken the trouble to ascertain the facts of the case before publishing a statement which leads to an erroneous conclusion. May we take this opportunity of adding that any of our goods required on Sunday, or at night, should be ordered from our Vere-street establishment and not from Plough-court or Bethnal-green?

We are, Sirs, yours faithfully,

ALLEN AND HANBURYS, LIMITED
June 22nd. 1897. (*per* FREDERICK J. HANBURY, Director).

### POISONED BY BUTTERCUPS.

IT is not generally known that the buttercup which is such a favourite flower with children has poisonous qualities, yet such is the case, and an inquest has recently been held on a boy who after eating some buttercups died within a few hours with all the symptoms of irritant poisoning. The buttercup belongs to the Ranunculaceæ, and nearly all the members of this group possess poisonous qualities, chiefly of an irritant nature, though in a few narcotic principles are to be found. The virulence of the poisons varies very much, but there are very few individuals of this order which are inert. The various species of buttercups have all irritant properties, and in the absence of better drugs they have occasionally been used as vesicatories. Cows avoid buttercups, but hogs and some other animals can eat them with impunity. The active principle is volatile, so that when the buttercups are dried with hay or exposed to the air they become inert. Luckily the buttercup, though pretty to look at, does not usually tempt children to eat it wholesale, otherwise cases of poisoning might be less rare than they fortunately are at present.

*Stockton.*—We are well known to disapprove strongly of the association of medical men with these medical aid associations, but there is nothing in this friendly society that calls for particular notice from a professional point of view. The sums paid by the members are higher than in many such "clubs," but possibly the medical men are none the better paid for that.

## A GOOD WAY BACK.

*To the Editors of* THE LANCET.

SIRS,—It may be of interest at the present time to readers of THE LANCET to refer them to the volume for 1837, where they will find an account of the death of my father's uncle, William Lynn (who, like my father after him, was for many years one of the surgeons of Westminster Hospital), which took place suddenly on June 24th in that year, four days after the Queen's accession. He had been visiting a friend at Bloomsbury, having been driven there in his carriage from Clapham, where he resided, and died when just about to enter it again for the return journey. During the visit much of the conversation naturally fell upon the recent death of the King (William IV.), and in the course of it Mr. Lynn remarked that he well remembered the death of George II. when he was about seven years of age. This carries us back a good way. I am, Sirs, your obedient servant.

Blackheath, June 14th, 1897. W. T. LYNN.

## AN APPLIANCE FOR THE DEAF.

*To the Editors of* THE LANCET.

SIRS,—Some time ago I saw an appliance spoken of—I think in THE LANCET—to assist in cases of dulness of hearing. It was, I believe, of aluminium, and was designed to hang from a garment so that both hands might be free. All about it has quite escaped me, and you will have my best thanks if you can give me the name of the maker or of the firm supplying it. I am, Sirs, yours truly,

May 29th, 1897. J. W. W.

*Lex.*—(1) We cannot find any decision. Section 42 of the Public Health (Scotland) Act is as follows: "Where a hospital or place for the reception of the sick is provided or exists within the district of a local authority the sheriff or any magistrate or justice may, on the application of the local authority, with the consent of the superintending body of such hospital or place, by order on a certificate signed by a legally-qualified medical practitioner, direct the removal to such hospital or place for the reception of the sick, at the cost of the local authority, of any person suffering from any dangerous, contagious, or infectious disorder, and being without proper lodging or accommodation, or lodged in a room occupied by others besides those in attendance on such person, or being on board any ship or vessel, or may direct the removal from the room occupied by such person of all others not in attendance on him, the local authority providing suitable accommodation for such other persons." Our correspondent should note, however, that a county council, as such, is not the local authority for carrying out the Public Health Acts, excepting where the county is not divided into separate districts. Wherever there are such districts the district committee is the local authority. (2) Section 121 is as follows: "The constabulary and police force in their respective jurisdictions shall aid the authorities and officers acting in execution of this Act, or any directions or regulations issued as aforesaid." While the Act contains no specific reference to forcible entry under Section 42, yet under Section 17, which deals with power of entry in the case of nuisances, forcible entry is specifically warranted. Reading the above-mentioned Sections 17, 42, and 121 together, we can hardly conceive that any court would blame a local authority for making forcible entry if necessary in order to remove to hospital a patient certified under Section 42. It is obvious that, in the event of resistance, Section 42 would become a dead letter unless there were forcible entry and removal. The question, however, is more properly a legal one. (3) The local authority may make its own regulations regarding the management of its own hospitals, and these regulations may include the appointment of a medical practitioner as attendant on the hospital to the exclusion of other medical practitioners. The method of payment of the medical man appointed would not affect the question. In certain instances we believe that local authorities have made regulations for the treatment of patients in hospital by their private medical attendants.

**COMMUNICATIONS not noticed in our present issue will receive attention in our next.**

**During the week marked copies of the following newspapers have been received:**—*Scotsman, Liverpool Courier, Grimsby News, Sheffield Independent, Birmingham Post, Hull News, Bradford Argus, St. Andrew's Citizen, Herald of Wales, Le Temps (Paris), Bury Guardian, Times of India, Pioneer Mail, Accrington Observer, Glasgow Weekly Citizen, Auckland Star, Architect, Cambria Daily Leader, North British Daily Mail, Goole Times, Builder, Norfolk Daily Standard, Journal des Debats (Paris), West Middlesex Herald, South Wales Daily News, Newcastle Journal, Rochdale Observer, Llandudno Directory, Eastern Morning News, Shrewsbury Chronicle, South Eastern Gazette, Manx Sun, Northampton Mercury, Preston Guardian, Liverpool Daily Post, Manchester Courier, Brighton Herald, Surrey and Hants News, Hereford Times, Yorkshire Post, Boston Independent, Kentish Express, Devon Weekly Times, Leicester Post, Portsmouth Times, Leamington News, Hampshire Telegraph, Leeds Mercury, Sussex Daily News, Woburn Reporter, Newport Advertiser, Luton Reporter, Bristol Mercury, Christian World, Sanitary Record, Brighton Gazette, Local Government Chronicle, Weekly Free Press and Aberdeen Herald, City Press, Hertfordshire Mercury, Reading Mercury, Walsall Observer, Bradford Observer, Devon and Somerset Weekly News, Bristol Times, Ardrossan and Saltcoats Herald, Grantham Journal, Surrey Advertiser, Guernsey Star, Flintshire Observer, Surrey Comet, The Wilkes-Barre Record, Mail and Express (New York), Family Herald and Weekly Star (Montreal), Evesham Standard, Clifton Chronicle, Chester Courant, &c., &c.*

## Communications, Letters, &c., have been received from—

A.—Rev. P. Alpe, Lond.; Rev. G. Adcock, Lond.; Aggrieved, Lond.; Mr. W. Ashford, Exeter; Association Française de Chirurgie, Paris; Secrétaire Général of; *Asylums News*, Lond., Editor of; Rev. R. Appleton, Lond.; Messrs. Allen and Hanbury, Lond.; Messrs. Armour and Co., Lond; Ajax, Lond.; Alpha, Lond.

B.—Rev. A. O'B. Brandon, Lond; Rev. E. B. Backhouse, Lond.; Mr. J. G. Beale, Lond.; Dr. James Barr, Liverpool; Miss Florence Burnell, Lond.; Dr. P. M. Braidwood, Aylesbury; Rev. W. J. Brown, Lond.; Mr. Wm. Berry, Wigan; British Medical Association, N.S.W. Branch, Sydney, Hon. Librarian of; Surg. R. F. Bate, H.M.S. *Widgeon*, Cape Station; Ballardvale Lithia Spring Water, Lawrence, Mass., U.S.A., Manager of; Messrs. Burgoyne, Burbidges, and Co., Lond; Rev. E. Bray, Lond.; Mr. F. W. Beville, Lond.; Bovril, Ltd., Lond.; Borough of Shrewsbury, Town Clerk of; Messrs. A. Bishop and Sons, Lond.; Bristol Royal Infirmary, Secretary of; Mr. H. C. Bedding, Lond.; Messrs. Blondeau et Cie, Lond.

C.—Mr. W. C. Clennell, Lond.; Mr. B. H. Chevallier, Old Charlton; Rev. D. A. Corbett, Lond.; Mr. J. Carcell, Lond; Mr. A. M. Campbell, Lond.; Mr. G. L. Cheatle, Lond.; Chandry Hospital, Calcutta, Resident Surgeon of; Dr. Cullingworth, Lond; Rev. D. T. Craig, Lond.; Carriage Insurance Co., Lond.; Cortland Wagon Co., Lond.

D.—Mr. J. A. W. Dollar, Lond; *Daily and Weekly Star*, Montreal, Publishers of; Mr. F. Deas, Liverpool; Department of the Interior, Washington, U.S.A., Secretary of; Mr. G. H. Dauglish, Harrow; Messrs. Deighton, Bell and Co., Cambridge; Messrs. Dale, Reynolds, and Co., Lond.; Dr. A. Davidson, Liverpool.

E.—Messrs. R. Ellis and Son, Ruthin; Rev. H. G. Elton, Chipping Barnet; Evangelical Protestant Deaconesses Institution and Training Hospital, Tottenham, Secretary of.

F.—Rev. J. Fletcher, Lond.; Rev. J. A. Faithfull, Lond.; Factory Girls' Country Holiday Fund, Lond., Hon. Secretary of.

G.—Dr. J. R. Gibson, Paisley; G. S. S., Exminster; Messrs. A. Gow and Co., Lond.; Dr. M. Greenwood, Lond.; Rev. D. Greatorex, Lond.; Messrs. F. Gastrell and Son, Cheltenham; Great Eastern Railway Co., Lond., Continental Traffic Manager of; Mr. R. P. Gemmell, Glasgow; Messrs. Giles, Schacht, and Co., Clifton

H.—Mr. C. Hayman, Lond.; Mr. W. B. L. Hopkins, Lond.; Mr. G. H. Huntley, Oldham; Dr. W. Hedley, Liverpool; Dr. J. B. Hurry, Reading; Mr. H. Holden, Lond.; Rev. W. Hind, Lond.; Dr. G. D. Hindley, Oxford; Dr. J. Hawkes, Bournemouth; Rev. J. L. Hooppell, Lond.; Messrs. Hertz and Collingwood, Lond.; Mr. J. S. Hislop, Hampsthwaite.

J.—Mr. G. Jackson, Plymouth; Messrs. W. Judd, Ltd., Lond.

K.—Rev. J. F. Kitto, Lond.; Rev. J. Keatinge, Lond.; Rev. W. Kidd, Leytonstone; Dr. A. A. Kanthack, Cambridge; Rev. S. Kenah, Lewisham; Rev. E. J. Kennedy, Lond.; Rev. J. H. W. Kane, Lond.

L.—Dr. L. Lambert, Greenwich; Rev. Dr. Lansdell, Lond.; Rev. E. Latham, Plumstead; Dr. J. Fletcher Little, Lond.; Dr. A. W. W. Lea, Manchester; Mr. W. T. Lynn, Blackheath; Messrs. Lea Bros. and Co., Philadelphia; Mr. J. Lafayette, Dublin; Dr. J. Dandsborough, Ayr; Mr. H. K. Lewis, Lond.

M.—Dr. J. Dixon Mann, Manchester; Manchester Therapeutical Society, Hon. Secretary of; Mr. F. D. Mocatta, Lond.; Mr. H. G. Mallam, Brighton; Dr. C. F. Marshall, Lond.; Dr. C. D. Musgrove, Penarth; Rev. W. Manning, Leytonstone; Rev. G. Maetzold, Lond.; J. M. Martin, Brighton; M. E. G., Lond.; Dr. F. Murchison, Isleworth; Mr. H. Moyar, Lond.; Herr J. H. Meyer, Braunschweig, Germany; M.B., Lond.; Mr. G. W. Major, Bexhill-on-Sea; Mr. J. A. Morgan, Llanwrtyd; *The Medical Council*, Philadelphia, U.S.A., Editor of.

N.—Dr. Neumann, Vienna; Rev. M. R. Neligan, Lond.; Newcastle-upon-Tyne Union, Clerk of.

O.—Dr. G. Oliver, Harrogate.

P.—Mr. J. C. Pabst, Auckland, New Zealand; Prince of Wales's Hospital Fund for London, Hon. Secretaries of; Dr. J. B. Pettigrew, St. Andrews, N.B; Mr. H. W. Page, Lond.; Dr. M. E. Paul, Nagasaki, Japan; Mr. J. B. Lond.; Rev. R. Arnold Pelly, West Ham; Mr. E. J. Physick, Lond.; Rev. J. J. H. S. Pennington, Lond.

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